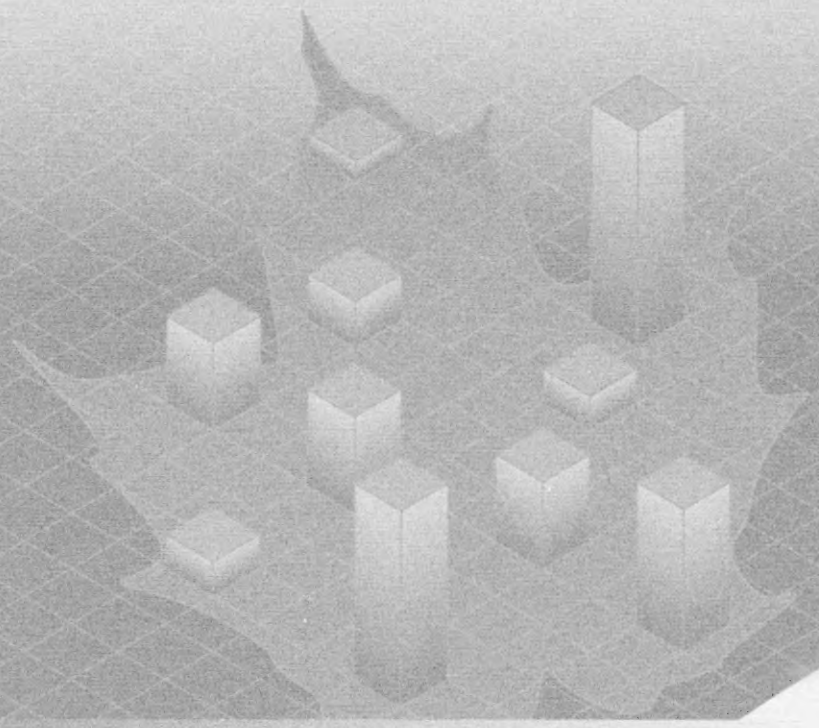
Office of the Superintendent of Financial Institutions Canada
Bureau du surintendant des institutions financières Canada
Office of the Chief Actuary
Bureau de l'actuaire en chef



ACTUARIAL REPORT

on the

CANADA STUDENT LOANS PROGRAM

as at 31 July 2009

Canada

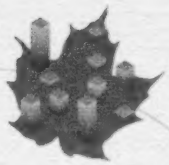
To obtain a copy of this report, please contact:

Office of the Chief Actuary
Office of the Superintendent of Financial Institutions Canada
16th Floor, Kent Square Building
255 Albert Street
Ottawa, Ontario
K1A 0H2
Facsimile: **(613) 990-9900**
E-mail: **oca-bac@osfi-bsif.gc.ca**

An electronic version of this report is available
on our Web site, at **www.osfi-bsif.gc.ca**

© Minister of Public Works and Government Services

Cat. No. IN3-16/22-2009E-PDF
ISBN 978-1-100-15384-1



11 June 2010

The Honourable Diane Finley, P.C., M.P.
Minister of Human Resources and Skills Development Canada
Gatineau, Canada

Dear Minister:

In accordance with section 19.1 of the *Canada Student Financial Assistance Act*, which provides that a report shall be prepared on financial assistance provided under this Act, I am pleased to submit the Actuarial Report on the Canada Student Loans Program, prepared as at 31 July 2009.

Yours sincerely,

Jean-Claude Ménard

Jean-Claude Ménard, F.S.A., F.C.I.A.
Chief Actuary

TABLE OF CONTENTS

Page

I. Executive Summary 7
A. Purpose of the Report 7
B. Scope of the Report 7
C. Main Findings 8
II. Main Report 10
A. Best-estimate Assumptions 11
1. Demographic Assumptions 11
2. Economic Assumptions 11
3. Provision Assumptions 14
B. Projection of Total Loans Issued 17
1. Projection of Full-time Post-secondary Enrolment 17
2. Number of Students in the Canada Student Loans Program 20
3. New Loans Issued 23
C. Portfolio Projections 25
1. Guaranteed and Risk-Shared Portfolios 25
2. Direct Loan Portfolio and Allowances 26
3. Limit on Aggregate Amount of Outstanding Loans 35
D. Projection of the Net Cost of the Program 36
1. Student Related Expenses 36
2. Program Risk Expenses 37
3. Other Expenses 39
4. Total Revenue 40
5. Net Cost of the Program 41
III. Conclusion 43
IV. Actuarial Opinion 44
V. Appendices 45
Appendix 1 – Summary of Program Provisions 45
Appendix 2 – Data 49
Appendix 3 – Assumptions and Methodology 51
Appendix 4 – Sensitivity Tests 64
Appendix 5 – Acknowledgements 70

INDEX OF TABLES AND CHARTS

		Page
Table 1	Borrowing Costs	13
Table 2	Provision and Allowance Assumptions	15
Table 3	Best-estimate Assumptions	16
Table 4	Population and Post-secondary Enrolment	19
Table 5	Average Student Need	20
Table 6	Loan Recipients	23
Table 7	Increase in New Loans Issued	24
Table 8	Guaranteed and Risk-Shared Regimes Portfolios	26
Table 9	Direct Loan Portfolio and Allowances	27
Table 10	Defaulted Loans and Allowance for Bad Debt – Principal	28
Table 11	Allowance for Bad Debt – Interest	30
Table 12	Allowance for Repayment Assistance Plan – Principal	32
Table 13	Direct Loan Portfolio and Allowances	34
Table 14	Aggregate Amount of Outstanding Risk-Shared and Direct Loans	35
Table 15	Student Related Expenses	36
Table 16	Risks to the Government	37
Table 17	Summary of Expenses	39
Table 18	Total Revenue	40
Table 19	Net Annual Cost of the Program	41
Table 20	Net Annual Cost of the Program	42
Table 21	Debt Reduction in Repayment	47
Table 22	Direct Loans Issued and Number of Students	49
Table 23	Direct Loans Consolidated	49
Table 24	Defaults and Recoveries for Direct Loans	50
Table 25	Interest Relief Payment Data for Direct Loans	50
Table 26	Debt Reduction in Repayment	50
Table 27	Labour Force Non-participation Rates by CSLP Age Band	51
Table 28	Short-term Increase of Tuition Expenses	54
Table 29	Monthly Living Costs 2008-09	54
Table 30	RAP Stage 1 Utilization Rates for the Direct Loan Regime	56
Table 31	Provision Rate – Bad Debt – Principal	59
Table 32	Provision Rates for Bad Debt – Interest	61
Table 33	Accelerated Payment Rates	62
Table 34	Administration Costs	62
Table 35	Long-term Sensitivity Test Assumptions	64
Table 36	Impact of Loan Limit on Loans Issued	65
Table 37	Impact of Indexation of Loan Limit and Grants on Loans Issued	65
Table 38	Sensitivity Test Results for Loan Year 2033-34	69
Chart 1	Evolution of Persons Retiring (60-64) and Newcomers (20-24)	18
Chart 2	CSLP Student Projected Need Curve	21
Chart 3	Provision Rates for Allowance for Bad Debt – Interest	30
Chart 4	Actual Need and Fitted Normal Distribution 2007-08	52
Chart 5	Distribution of Consolidation	55
Chart 6	Default Distribution	57
Chart 7	Recovery Distributions Depending on Date of Default	58
Chart 8	Projected Cumulative Proportions of Recoveries for 2008-09 Default Cohort	59
Chart 9	Write-off Distribution	60
Chart 10	New Loans Issued with Indexation of Loan Limit and Grants	66

I. Executive Summary

Effective 1 August 2000, the Government redesigned the delivery of the Canada Student Loans Program (CSLP) from one delivered by chartered banks to one directly financed by the Government. As part of this redesign, the Office of the Chief Actuary was given the mandate to conduct an actuarial review to provide a precise assessment of the current costs of the CSLP, a long-term (25 years) forecast of these costs, a portfolio projection, as well as a discussion of all the assumptions underlying the results of the review. The results are presented on a loan year basis from 1 August to 31 July.

A. Purpose of the Report

In accordance with section 19.1 of the *Canada Student Financial Assistance Act*, which provides that the Chief Actuary of the Office of the Superintendent of Financial Institutions shall prepare a report on the financial assistance provided under this Act no later than three years apart, a second statutory actuarial report on the CSLP has been prepared as at 31 July 2009. The report includes projections of future costs of the Program through loan year 2033-34. The purpose of the actuarial review of the CSLP is to provide an evaluation of the Program's overall financial costs and increases the level of information provided to the Minister of Human Resources and Skills Development Canada, Parliament and the public.

In accordance with accepted actuarial practice, this actuarial report shows estimates of:

- projections of the number of students in the CSLP and amount of new loans issued;
- projections of the portfolio of loans in-study, loans in repayment and Program cost elements by type of financial arrangement or regime. Also included are projections of the provisions and allowances under the Direct Loan Regime in effect since August 2000; and
- projections of the net cost of the Direct Loan Regime as well as the remaining net cost for the pre-2000 regimes.

B. Scope of the Report

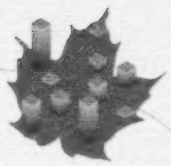
This valuation report is based on the Program provisions as described in Appendix 1. After a short discussion of the best-estimate assumptions in section A of the Main Report, section B presents projections of new loans issued, the number of students eligible to receive a loan and the average amount of new loans issued. Section C includes projections of the portfolio by type of regime. Section D contains projections for the operation of this Program, such as revenues and expenses for all three regimes. These are followed by a conclusion of the actuarial review and the actuarial opinion regarding this review.

The various appendices provide supplemental information on Program provisions, a description of data, assumptions and methods employed and the sensitivity tests conducted.

C. Main Findings

The following summarizes the main findings of this actuarial report. The results are presented on a loan year basis from 1 August to 31 July.

- A new Canada Student Grants Program (CSGP) was introduced in loan year 2009-10. The amount of grants disbursed is projected to increase from $523 million in 2009-10 to $643 million in 2033-34.
- The economic downturn mainly affects enrolment and loan uptake projected in 2009-10. The number of students enrolled full-time in a post-secondary institution is projected to increase by 50,000, while the number of students receiving a CSLP loan is projected to increase by 18,000.
- The amount of new loans issued in 2008-09 totalled $2,070 million and is projected to increase slightly to $2,091 million in loan year 2009-10. The increase of $21 million is the combination of opposing effects of the economic downturn and the introduction of the new CSGP. The amount of new loans issued is projected to increase throughout the projection period to reach $3,254 million in 2033-34.
- The percentage of students at the loan limit is projected to decrease from 37% in 2008-09 to 33% in 2009-10 due to the new CSGP. However, this percentage is expected to grow thereafter to reach 72% in 2033-34.
- The Direct Loan portfolio increases from $11.3 billion as at 31 July 2009 to $20.7 billion by the end of the projection period. The amount of Direct loans in default as at 31 July 2009 is $1.4 billion and is projected to reach $2.7 billion in 2033-34.
- According to the projections, the $15 billion limit on the aggregate amount of outstanding loans in section 13 of the CSFAA will be reached in loan year 2014-15.
- A new Repayment Assistance Plan (RAP) was introduced in loan year 2009-10. It replaces the Interest Relief (IR) and Debt Reduction in Repayment (DRR) measures. An allowance for RAP has been established with a provision rate of 1.8%, which is higher than the provision rate of 1.0% set in the previous report for the former DRR measure since an increase in utilization is expected.
- The total net cost (expenses less revenues) of the Government's involvement in the CSLP is expected to grow from $701 million in 2008-09 to $1.8 billion in 2033-34. This represents an average annual increase in the cost to the Government of 3.9%. Compared to the previous actuarial report, the net cost of the Program increased significantly due to the increased direct help provided to students in the form of the new CSGP.
- The assumption for the future gross default rate has been reduced from 20% in the previous report to 16%. This reduction is partially attributable to the introduction of the new RAP. In light of recent experience, the assumption for the future recovery rate has also been reduced from 29% in the previous report to 26%. As a result, the provision rate for bad debt – principal decreased to 12.4%. The report accounts for the impact of the economic downturn on loans in repayment by assuming an increase in the default rate and a reduction in recoveries in loan years 2009-10 and 2010-11.
- The provision rates for bad debt – interest are increased compared to the previous report since recent experience has shown a reduction in interest recoveries.



- As a sensitivity test, the loan limit of $210 is indexed annually to inflation. The test results are included in Appendix 4. The impact on new loans issued is an increase of $17 million (0.8% increase) in 2010-11 and an increase of $1.4 billion (42% increase) in 2033-34.

II. Main Report

The Canada Student Loans Program has been in effect since 1964 and provides Canadians with financial assistance to pursue a post-secondary education. Historically, two successive acts were established to permit the Minister to provide loans to eligible students under the Program. The *Canada Student Loans Act* (CSLA) applies to loan years preceding August 1995. The *Canada Student Financial Assistance Act* (CSFAA) replaced the previous act for loan years after July 1995.

On 1 August 2000, the Government redesigned the delivery of the Program to disburse loans directly to students. The Office of the Chief Actuary was given the mandate to provide an assessment of the current costs of the CSLP, a long-term (25 years) forecast of these costs, a portfolio projection, as well as a discussion of all the assumptions underlying the results of the review. The results are presented on a loan year basis from 1 August to 31 July.

Section A of the report provides a discussion of assumptions that reflect the actuary's best judgement; these assumptions are referred to in this report as the "best-estimate" assumptions. They are determined by putting emphasis on elements affecting the growth of new loans issued.

The projection of loans issued to eligible students for each loan year is presented in section B. This includes a projection of the student population (ages 18 to 34) in order to determine the future number of students enrolled in post-secondary education and thus eligible to qualify for a loan under the CSLP. A long-term demographic and economic context of the aging of the population and the anticipated labour shortage serve as a basis for the examination of key factors that affect eligibility. Such factors include the evolution of the projected student population, the participation of youth in the labour force and the enrolment rate in post-secondary institutions.

The projection of the loan portfolio for each regime (Guaranteed, Risk-Shared and Direct) is provided in section C and the forecast of the net cost of the CSLP is presented in section D. For the Government, there are higher public debt charges following the implementation of the Direct Loan arrangement. The costs related to Direct loans include the interest subsidy on in-study loans, interest relief from the Repayment Assistance Plan (RAP), provisions for RAP (principal) and bad debt (principal and interest), the new Canada Student Grants Program (CSGP), alternative payments, loan forgiveness and administration expenses. The costs are reduced by an estimate of the net interest revenues coming from student interest payments, RAP interest payments and the net interest accrued during the grace period and on defaulted loans.

The actuarial estimates in this report are based on the current provisions of the Program as described in Appendix 1. The other appendices contain detailed descriptions of the assumptions, methodology and sensitivity tests conducted, as well as the results of the sensitivity tests which examine the impact of changes in assumptions such as the loan ceiling, interest rates and net default rates.

A. Best-estimate Assumptions

Several economic and demographic assumptions are needed to determine future long-term costs of the CSLP. The projections included in this report cover a period of 25 years and the assumptions are determined by putting as much emphasis on historical trends as on short-term experience. These assumptions reflect the actuary's best judgement and are referred to as "best-estimate" assumptions. Some of the assumptions are based on the most recent actuarial report on the Canada Pension Plan (CPP), adjusted to reflect loan year periods and current economic and demographic experience.

The assumptions were chosen to form a coherent whole, taking into account certain interrelationships among them. The following sections present the assumptions used as well as their future evolution.

1. Demographic Assumptions

The demographic projections start with the Canadian and Québec populations on 1 July 2006, to which future fertility, mortality and migration assumptions are applied. The population of Canada is adjusted to exclude the non-participating province of Québec and territories of the Northwest Territories and Nunavut. The CPP population projections are essential in determining the future number of students enrolled in and pursuing a post-secondary education.

2. Economic Assumptions

The main economic assumptions related to the CSLP are the evolution of the labour force, inflation, tuition fees, wage increases, as well as the cost of borrowing for both students and the Government.

a) Evolution of the Labour Force

The "baby-boom" generation has and continues to exert a major influence on various aspects of society. It represents the large cohort born between the mid-1940s and the mid-1960s. This generation has exerted the strongest single influence on Canadian demographics over the last several decades. The aging of this generation will have significant influences over the next 25 years, such as slowing down the natural population growth and changing the composition of the labour force.

The entry of the "baby-boom" generation into the labour market created an abundance of workers, thus increasing the unemployment rate and influencing the transition from school to work during the last 20 years. In the 1990s, poor labour market conditions meant that youths aged 15-24 were less likely to find work and thus, more likely to be in school than youths of previous decades.

During the last decade, poor labour market conditions increased the school-to-work transition period. Until recently, it was difficult for a great number of youths to find work. One of the key elements underlying the best-estimate economic assumptions relates to the expected labour shortage. This shortage will result from the aging of the population, the retirement of the "baby-boom" generation and the impact of these on the labour force growth and distribution.

However, the recent economic downturn, as evidenced by the increasing unemployment rate and contraction of the economy, had an impact on the labour market. During the two most recent recessions (1981-82 and 1990-92), the youth unemployment rate (ages 15-24) increased by more than 50%. In addition, youth labour force participation mostly decreased, while some female participation actually increased during the early 1980's as the female presence in the labour force continued to increase.

In the 23rd CPP Actuarial Report, a sensitivity test called the Economic Half-Cycle was performed with the purpose of replicating the impact of the 1981-82 economic downturn on the labour force. Compared to last year, private sector forecasters have reduced the projected Canadian unemployment rate from 9.0% to 8.5% in 2010. Both of these rates are higher than the 6.3% that underlies the CPP labour force projections. However, these projections are less severe than the Economic Half-Cycle sensitivity test. The average unemployment forecast corresponds to 50% of the Economic Half-Cycle sensitivity measured in the 23rd CPP Actuarial Report which is down from 60% in the previous CSLP Actuarial Report.

Thus, the CSLP best-estimate scenario reduces youth labour force participation rates in loan years 2009-10 and 2010-11 by 50% of the change experienced by males during the 1981-82 recession. Female participation rates are reduced by the same percentage as male participation rates since females are now a larger part of the labour force and would not experience an increase in participation now as they did during the 1981-82 recession. The participation rates are gradually increased beginning in 2011-12 before returning to their CPP best-estimate levels in 2016-17. The decrease in labour force participation rates results in an increase in full-time post-secondary enrolment and ultimately, an increase in the number of CSLP students.

Starting in 2011, a decline in the labour force growth rate for the entire population will create more working opportunities for those aged 18-34 and should reduce the school-to-work transition period for this group. The proportion of individuals aged 18 to 34 participating in the labour force is set to increase from 78.7% in loan year 2010-11 to 82.3% in 2033-34. This implies that youths will join the labour market sooner, thus reducing the proportion of the population inclined to remain within the educational system. However, labour force growth is somewhat mitigated until 2016-17 due to the economic downturn and its subsequent recovery.

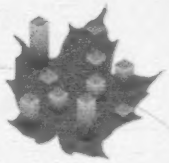
b) Inflation, Tuition Fees and Wage Increases

The desire of the Bank of Canada and the Federal Government to keep inflation between 1% and 3% suggests that the rate of inflation will remain low in the coming years. Hence, the annual inflation rate, which was on average about 1.3% in loan year 2008-09, is assumed to be 1.0% for loan year 2009-10, before increasing to 2.0% in 2010-11 and then held constant for the following two years. Starting in 2013-14, the rate is uniformly increased to its ultimate level of 2.4% in 2016-17. This rate of inflation is maintained for the remainder of the projection period.

Student expenses are used in the need assessment process to determine the maximum loan amount that can be issued. These expenses include food, shelter, transportation and clothing, all of which tend to vary with consumer prices. As a result, the future anticipated rate of inflation is used to project these expenses.

Tuition fees are treated separately from other expenses since their evolution is, in part, a result of government policies. Based on stated intentions in provincial budgets and actual tuition increases as reported in news releases, the tuition increase is estimated to be 3.6% in loan years 2009-10 to 2012-13. In the past, government budgetary cost pressures caused tuition fees to rise more quickly than inflation. Similar budgetary pressures are expected in the future due to the aging of the population. Thus, tuition fees are indexed at the rate of inflation plus 3.0% for the long-term, in accordance with past experience.

Future student resources, including student earnings and parental contributions, are influenced by the increase of average annual earnings. The increase in average earnings is related to changes in the manpower supply in the labour force. Therefore, an increase in productivity and a decline in the labour force growth rate, especially after 2011-12, are assumed to force a relatively higher real wage growth. The real wage growth is projected to increase gradually from 0.7% in



2009-10, reaching 1.3% by 2015-16. It is maintained at that level for the rest of the projection period.

c) Cost of Borrowing

Since August 2000, students are indebted to the Government of Canada and, as a result, the Government bears the interest risk associated with the cost of borrowing for the entire duration of the loans. In general, the loan's duration is a combination of three periods. First, a student is in school and receives an interest subsidy for an average of three years. Next, the student enters a grace period of six months during which interest accrues but no payment is required. Finally, the student enters a period of repayment which normally lasts nine and a half years. The historical 10-year Government of Canada bond yield, net of inflation, is used as a benchmark to calculate the real cost of borrowing for the Government. In recent months, federal bond yields have been decreasing and this trend is expected to reverse in the near future. Thus, the Government cost of borrowing is estimated to be 3.5% in loan year 2009-10 and is anticipated to gradually increase to an ultimate rate of 4.9% by loan year 2016-17. The Government cost of borrowing is the sum of the real government cost of borrowing and the rate of inflation as summarized in Table 1.

Table 1 Borrowing Costs

Loan Year	Inflation (%)	Real Government Cost of Borrowing (%)	Government Cost of Borrowing (%)	Prime Rate (%)	Student Cost of Borrowing (%)
	(1)	(2)	(1) + (2)	(3)	(3) + 250 pts
2009-10	1.0	2.5	3.5	2.3	4.8
2010-11	2.0	1.8	3.8	3.2	5.7
2011-12	2.0	2.0	4.0	4.0	6.5
2012-13	2.0	2.1	4.1	4.2	6.7
2013-14	2.1	2.2	4.3	4.4	6.9
2014-15	2.2	2.3	4.5	4.6	7.1
2015-16	2.3	2.4	4.7	4.9	7.4
2016-17+	2.4	2.5	4.9	5.2	7.7

The prime rate decreased throughout loan year 2008-09 from 4.75% at the beginning of the loan year to 2.25% in April 2009. The average prime rate for loan year 2009-10 is set at 2.25%, and is expected to increase to 3.2% in loan year 2010-11 based on the expected gradual recovery of the economy. Beginning in loan year 2011-12, the prime rate is expected to increase gradually to an ultimate rate of 5.2% in loan year 2016-17. The student cost of borrowing, used to calculate interest revenue, is the sum of the prime rate and a spread of 250 basis points. Given the recent reduction in the prime rate, the student cost of borrowing decreased to 4.8% in loan year 2009-10 from 5.5% in the last report. The student cost of borrowing can be found in the last column of Table 1.

3. Provision Assumptions

Since August 2000, the CSLP is delivered and financed directly by the Government. Three provisions were established to cover future costs: bad debt – principal, bad debt – interest and Debt Reduction in Repayment (DRR). In Budget 2008, the Government announced a new Repayment Assistance Plan (RAP) to replace the Interest Relief (IR) and DRR measures. A new RAP – Principal provision has been created, effective August 2009.

The provision for bad debt – principal is based on a prospective approach that uses a snapshot of the portfolio at a particular point in time to determine the amount of the allowance at that time. The calculation of the allowance is separated into three components according to the status of the loan; that is whether the loan is in-study, in repayment (according to the number of years since consolidation) or in default (according to the number of years since default). The value of the allowance is projected into the future using assumed default and recovery rates. For each loan category, based on the length of time that the loan has been in that status, the appropriate rate and distribution are applied to determine the value of the allowance.

The provision rate for bad debt – principal is applied to the net loans issued which are obtained by reducing loans issued by prepayments and loans forgiven while in-study and during the grace period. This provision rate has been reduced from 14.8% in the previous report to 12.4%. The level of the total allowance is determined at the end of the loan year. The annual expense for bad debt – principal is equal to the difference between the total allowance at the end of a year and the total allowance at the end of the previous year net of write-offs that have occurred during the year.

The allowance for bad debt – interest is based on the account's recoverable status and its age since default. The interest accrued on defaulted loans is considered a revenue until the loan reaches the "non-recoverable" status. To lessen the effect of changing this revenue to a loss, an allowance is created based on the outstanding interest at the end of each year. The percentage of the allowance changes according to the number of years since default. The annual expense for bad debt – interest is equal to the difference between the total allowance at the end of a year and the total allowance at the end of the previous year net of write-offs that have occurred during the year.

The provision rates for bad debt – interest are increased from the previous report due to lower than expected interest recoveries. The projected rates take into account that a large portion of interest is transferred to the "non-recoverable" status starting in the sixth year following default because there is a six-year limitation period (statute of limitations). The set of provision rates used to determine the allowance as at 31 July 2010 is shown in Table 2. These rates are also used to determine the allowance as at 31 March 2010 for the purpose of the Public Accounts.

The new RAP consists of two stages to help student borrowers fully repay their student loan within fifteen years (or ten years for borrowers with permanent disabilities). Stage 1 is applicable for up to five years over a ten-year period. The Government will cover the monthly interest amount owing that the borrower's affordable payment does not cover. Stage 2 begins once the borrower completes Stage 1, or has been in repayment for ten years following the end of the study period. The Government continues to cover the interest, as in Stage 1, and begins to cover a portion of the student loan principal amount (i.e. the difference between the required and affordable payments.

Consequently, the new RAP – principal provision covers future costs related to Stage 2 of the RAP in which the principal balance of the loan is gradually paid off, in part or entirely, by the Government. The existing DRR allowance is reversed. The new RAP – principal provision rate,

applicable to net loans issued, is set at a rate of 1.8% compared to the DRR provision rate which was set at 1.0%.

As RAP is a new program with very little experience data, the related projection of costs and underlying assumptions will be revised as more experience emerges and the provision rate will be updated accordingly. As for Interest Relief, a modest provision for the RAP (Stages 1 and 2) – interest is determined by HRSDC for accounting purposes to take into account the timing of the interest accrued.

Table 2 Provision and Allowance Assumptions

Type of Provision		Assumptions
		(%)
On net loans issued		
Bad debt – principal		**12.4**
Repayment Assistance Plan		1.8
Total		**14.2**
On outstanding recoverable interest	**Year Since Default**	(%)
Allowance for bad debt – interest	1st	33.6
	2nd	46.1
	3rd	57.1
	4th	66.0
	5th	74.4
	6th	71.6
	7th	71.8
	8th	72.1
	9th	72.5

Table 3 contains a summary of the best-estimate assumptions described previously.

Table 3 Best-estimate Assumptions

1. Total fertility rate for Canada	1.6 per woman
2. Mortality	2000-02 Life Tables for Canada with future improvements
3. Net migration rate	0.50% of the population to 2015 and 0.54% in 2020+
4. Youth participation rate (participating provinces/territory, ages 18-34)	78.6% (2009-10) ⋮ 82.3% (2033-34)
5. Real wage increase	0.7% (2009-10) 0.9% (2010-11) ⋮ 1.3% (2015-16+)
6. Inflation	1.0% (2009-10) 2.0% (2010-11) ⋮ 2.4% (2016-17+)
7. Tuition fee increases	3.6% (2009-10) 3.6% (2010-11) 3.6% (2011-12) 3.6% (2012-13) ⋮ CPI + 3.0% (2016-17+)
8. Government cost of borrowing	3.5% (2009-10) ⋮ 4.9% (2016-17+)
9. Student borrowing cost	4.8% (2009-10) ⋮ 7.7% (2016-17+)
10. Provision rate for bad debt – principal	12.4% (2009-10+)
11. Provision rates for bad debt – interest	33.6% (Interest on loans in default for less than a year) ⋮ 71.6% (Interest on loans in default for 5 to 6 years) ⋮ 100.0% (Interest on loans in default for 14 to 15 years)
12. Provision rate for RAP – principal	1.8% (2009-10+)

B. Projection of Total Loans Issued

The purpose of this section is to discuss the projection of the amount of total loans issued by the CSLP. First, the full-time enrolment in post-secondary institutions is projected. Next, the future number of students participating in the CSLP is determined using a projection of the distribution of assessed need for CSLP students. Finally, the previous elements are combined to project the amount of total loans issued.

1. Projection of Full-time Post-secondary Enrolment

The projection of full-time students in post-secondary institutions must be determined first since the demand for the CSLP is linked to the number of students enrolled in post-secondary institutions. Demographics and post-secondary enrolment will have the largest impact on the progression of full-time students attending post-secondary institutions.

a) Demographic Projections

The population of Canada less Québec and the territories of the Northwest Territories and Nunavut in the age range 18-34 is used to project the number of students enrolled in post-secondary institutions. The projection of this population is a fairly good approximation since it originates from individuals born between 1974 and 2013, most of whom are already included in the population.

In the first seven years of the projection, children of the "baby-boom" generation, called the "echo" generation, are expected to contribute to the increase in the population for ages 18-34. The "baby-boom" generation is more numerous and, consequently, had more children than the previous generation, notwithstanding a lower fertility rate. The population aged 18-34 is expected to increase from 5,937,000 in 2008-09 to 6,180,000 by 2015-16. In the last eighteen years of the projection, the population aged 18-34 decreases to 5,978,000. Overall, as Table 4 shows, a small increase of 41,000 is expected in the population aged 18-34 over the 25-year projection period.

b) Post-secondary Enrolment

The number of students enrolled full-time in post-secondary institutions is closely linked to the evolution of the population aged 18-34 that is not participating in the labour force. Those individuals who are not participating in the labour force may be more inclined to pursue a post-secondary education. Thus, post-secondary enrolment is assumed to evolve in conjunction with the population not participating in the labour force.

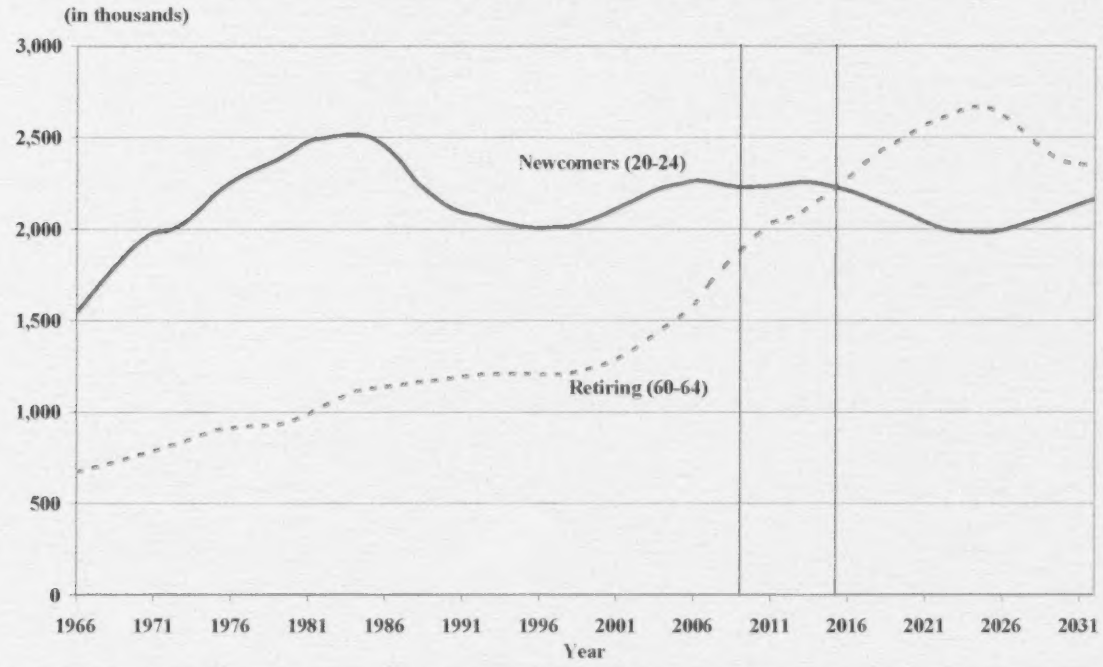
There are two significant factors that will influence the number of individuals in the labour force and thus, post-secondary enrolment. The first factor is the economic downturn. As discussed earlier, the increase in the Canadian unemployment rate will decrease labour force participation rates. This is especially true among those just out of post-secondary programs as they are starting their careers and have less experience and seniority than their co-workers. The decrease in participation rates in 2009-10 and 2010-11, followed by a six-year recovery to the CPP best-estimate rates, will result in a smaller labour force during that time. It is expected that a large proportion of those newly unemployed or unable to enter the labour market will choose to pursue a post-secondary education. This results in a slightly higher enrolment than would have been the case without the decrease in participation rates during that period.

The second factor influencing the labour force is the aging and subsequent retirement of the "baby-boomers". This, along with a shortage of replacement workers caused by the low fertility rate, is expected to create strong pressure on the labour market. The generations following the

"baby-boom" are smaller and thus have fewer labour force entrants to replace the retiring "baby-boomers". This will cause a labour shortage which will increase as more of the "baby-boomers" retire.

As shown in Chart 1, the number of persons retiring or in the age range 60-64 has been very low historically compared to the number of newcomers entering the labour force. This situation is expected to change radically over the next 6 to 25 years, creating an imbalance in the labour market. More specifically, in 2015, the number of persons retiring is expected to catch up with the number of newcomers, reaching 2,227,000 persons. By 2025, the number of persons retiring (2,661,000) will surpass the number of newcomers (1,980,000) by 34%. The labour market will have to adapt since it is accustomed to having at least two newcomers for each person retiring; this ratio will decrease significantly to less than one newcomer for each person retiring. As a result, the participation rates of the population aged 18-34 in the labour force are assumed to increase once the economy has recovered and the school-to-work transition period will be reduced due to favourable labour market conditions and the increased availability of work.

Chart 1 Evolution of Persons Retiring (60-64) and Newcomers (20-24)



In Table 4, the population not participating in the labour force is projected to increase from 1,226,000 to 1,284,000 during the first two years of the projection, which is an increase of 58,000. This is due to an increase in unemployment and the corresponding decrease in labour force participation rates. Over the last twenty-three years of the projection, the population not participating in the labour force decreases by 226,000 to reach 1,058,000 in loan year 2033-34. This large decrease is caused by the anticipated labour shortage and the assumption that over the last twenty-three years of the projection period, the labour force participation rates of the population 18-34 will increase due to economic recovery, favourable labour market conditions and increased availability of work. As participation in the labour force increases, the population not participating in the labour force will, in turn, decrease.

Table 4 Population and Post-secondary Enrolment

Loan Year	Population of Canada Less Québec, Nunavut, and NWT (18-34) (Thousands)	Not Participating In Labour Force (18-34) (Thousands)	Students Enrolled Full-time (Thousands)	Increase (Thousands)	Growth Rate (%)
2008-2009	5,937	1,226	1,023	-	-
2009-2010	5,993	1,280	1,073	50.4	4.9
2010-2011	6,038	1,284	1,077	4.1	0.4
2011-2012	6,077	1,274	1,062	-15.5	-1.4
2012-2013	6,113	1,266	1,046	-15.3	-1.4
2013-2014	6,150	1,264	1,040	-6.1	-0.6
2014-2015	6,175	1,260	1,034	-6.2	-0.6
2015-2016	6,180	1,242	1,015	-19.3	-1.9
2016-2017	6,172	1,222	994	-21.0	-2.1
2017-2018	6,155	1,207	979	-15.0	-1.5
2018-2019	6,130	1,193	966	-12.9	-1.3
2019-2020	6,093	1,170	945	-20.4	-2.1
2020-2021	6,049	1,141	919	-26.8	-2.8
2021-2022	6,011	1,121	903	-15.4	-1.7
2022-2023	5,986	1,110	897	-6.4	-0.7
2023-2024	5,967	1,096	890	-7.0	-0.8
2024-2025	5,941	1,079	883	-7.3	-0.8
2025-2026	5,911	1,062	877	-6.2	-0.7
2026-2027	5,893	1,053	876	-0.3	0.0
2027-2028	5,884	1,049	881	5.2	0.6
2028-2029	5,886	1,045	890	8.5	1.0
2029-2030	5,894	1,043	899	9.0	1.0
2030-2031	5,902	1,038	904	5.2	0.6
2031-2032	5,916	1,044	914	10.0	1.1
2032-2033	5,943	1,051	923	9.0	1.0
2033-2034	5,978	1,058	931	8.2	0.9

The evolution of the inactive population (i.e. those aged 18-34 not participating in the labour force) is a good indicator of the evolution of the population in post-secondary institutions. Enrolment in post-secondary institutions, as well as CSLP participation, varies between age groups. For projection purposes, enrolment is separated into age groups. In prior reports, the total published enrolment was separated into age groups based on CSLP loan distribution. The methodology used to project enrolment was modified to use data provided by Statistics Canada on the actual enrolment by age group. The new data and methodology combine to produce higher enrolment throughout the projection period than in the last report. In addition, a post-secondary participation factor, calculated as the ratio of the historical post-secondary enrolment to the inactive population for each age range, is applied to the future inactive population in order to determine future enrolment in post-secondary institutions.

In Table 4, the population aged 18-34 enrolled full-time in a post-secondary institution is projected to increase by 54,000 (1,023,000 to 1,077,000) during the first two years of the projection period due to the economic downturn. Over the remaining projection period, the number of students enrolled full-time decreases due to of a decrease in the population aged 18-34 that is not participating in the labour force.

2. Number of Students in the Canada Student Loans Program

To project the number of students in the CSLP, it is necessary to determine the future distribution of student need, as well as the average student need. Not everyone enrolled in a post-secondary institution is eligible to participate in the CSLP. The need assessment process determines whether students are eligible for a loan, and if so, the amount they are eligible to receive. A student's need is defined as the excess of expenses over resources, if positive. The expenses assessed include tuition fees, books, shelter, food and transportation. The resources assessed include student earnings, assets and parental contributions. Future distributions of student need are projected using the CSLP need assessment data provided by the Human Resources and Skills Development Canada (HRSDC).

In this report, the methodology is improved using the need assessment data file for loan year 2007-2008. In previous reports, all students' needs were modelled with the same need curve. For this report, students have been separated into three groups based on their living arrangement and a distinct need curve is developed for each group. The results are then aggregated using a weighted average based on loans issued.

Table 5 Average Student Need

Loan Year	Resources ($) (1)	Tuition ($) (2)	Other Expenses ($) (3)	Total Expenses ($) (2) + (3)	Average Student Need ($) (2) + (3) - (1)	Average Student Need Increase ($)
2008-2009	5,100	6,000	11,000	17,000	11,900	
2009-2010	5,000	6,200	11,100	17,400	12,300	400
2010-2011	5,100	6,400	11,200	17,700	12,500	200
2011-2012	5,300	6,700	11,500	18,100	12,800	300
2012-2013	5,500	6,900	11,700	18,600	13,100	300
2013-2014	5,800	7,200	11,900	19,100	13,300	200
2014-2015	5,900	7,500	12,100	19,600	13,700	400
2015-2016	6,100	7,900	12,400	20,200	14,100	400
2016-2017	6,400	8,200	12,700	20,900	14,600	500
2017-2018	6,600	8,700	13,000	21,700	15,100	500
2018-2019	6,800	9,200	13,300	22,400	15,600	500
2019-2020	7,100	9,700	13,600	23,200	16,100	500
2020-2021	7,400	10,200	13,900	24,100	16,700	600
2021-2022	7,600	10,700	14,200	24,900	17,300	600
2022-2023	7,900	11,300	14,500	25,800	17,900	600
2023-2024	8,200	11,900	14,900	26,800	18,600	700
2024-2025	8,500	12,600	15,200	27,800	19,300	700
2025-2026	8,800	13,200	15,600	28,800	20,000	700
2026-2027	9,200	14,000	15,900	29,900	20,700	700
2027-2028	9,500	14,700	16,300	31,000	21,500	800
2028-2029	9,800	15,500	16,700	32,200	22,300	800
2029-2030	10,200	16,300	17,100	33,400	23,200	900
2030-2031	10,600	17,200	17,500	34,700	24,100	900
2031-2032	11,000	18,200	17,900	36,000	25,000	900
2032-2033	11,400	19,100	18,300	37,400	26,000	1,000
2033-2034	11,800	20,200	18,700	38,900	27,100	1,100

Table 5 summarizes the three main elements of student need, as well as the average student need. The new need assessment data file and the new methodology used to project the student need curves result in both an increase in projected resources and expenses compared to the previous report. Since the increase in projected expenses is higher than the increase in projected

resources, the average student need increases compared to the last report. It is expected that job losses due to the recent economic downturn will reduce student resources in loan years 2009-10 and 2010-11. The expected job losses are based on the decrease in the July youth employment rate during the 1981-82 recession. The reduction in student resources is gradually phased out over the following two loan years and student resources return to the projected best-estimate value in loan year 2013-14. By reducing student resources, assessed needs will increase, as will average loan size. The reduction in student resources will further increase the number of students in the Program, as well as increase new loans issued for loan years 2009-10 to 2012-13.

Tuition fees are the primary source of increases in student need and are ultimately indexed at 3.0% above inflation. However, tuition has been, on average, 2.7% above inflation over the last ten years and 4.3% above inflation over the last fifteen years. Other expenses, which include books, shelter, food and transportation, are indexed at the rate of inflation. Resources are increased at a slower pace than tuition and are ultimately indexed at 1.3% above inflation. Table 5 shows average tuition fees rising from $6,000 in 2008-09 to $20,200 in 2033-34. In fact, tuition fees rise from 118% of a student's available resources in 2008-09 to 171% in 2033-34.

Chart 2 CSLP Student Projected Need Curve for Single Dependent, Living Away

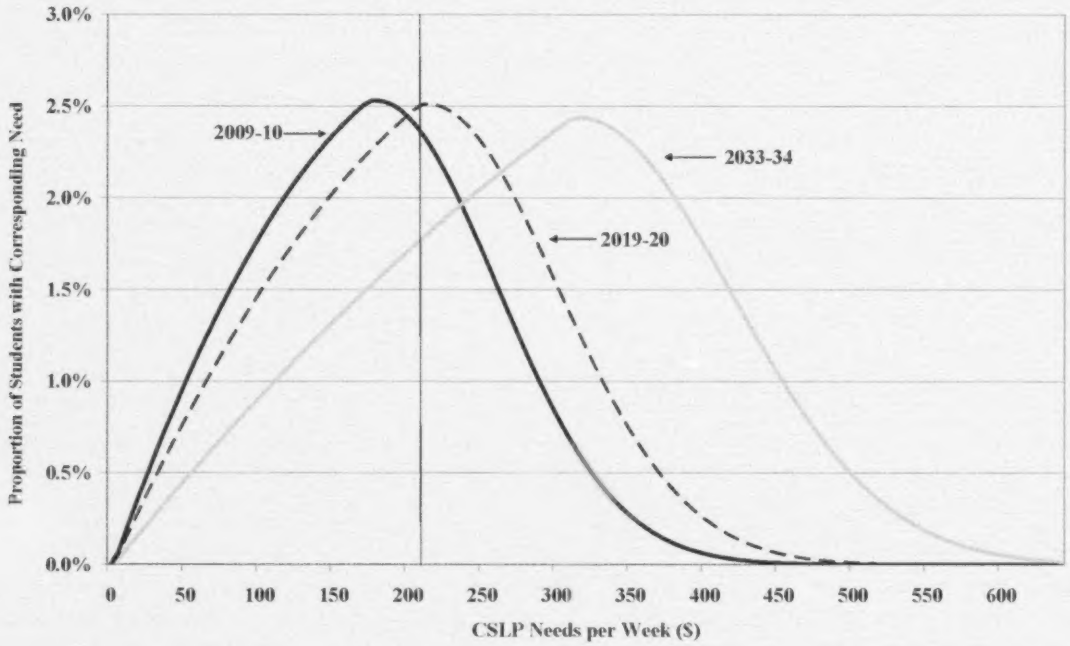


Chart 2 is a projection of the CSLP student need curves for three years during the twenty-five year projection period. The area under each successive need curve grows from year to year and represents the increased participation in the CSLP. The CSLP loan uptake rate is defined as the proportion of students enrolled full-time in a post-secondary institution who take a loan in the CSLP. The vertical line at $210 in Chart 2 represents the current loan limit. Any borrower whose need falls to the right of this line will receive a loan equal to the limit. Those whose need does not exceed the loan limit are eligible to receive a loan amount equal to their entire need. The effect that the constant loan limit has on new loans issued is apparent since the area under the curves and to the right of the vertical line is increasing through time.

During the projection period, the modelled need curves become flatter as students move further to the right of the curve due to increased need. Need will increase if expenses are increasing faster than resources, as is assumed. The need assessment data show that students with high need have a very low level of resources. Thus students to the right of the peak of the need curve have few resources and will see a large increase in their need. Those to the left of a peak will experience an increase in need less than the average since any increase in need should be partially offset by an increase in resources. It is anticipated that as student need increases, newly eligible participants will enter to the left of the peak. New participants will enter the CSLP because their previously negative need became positive or their need increased enough that it became worthwhile to take the loan. It is expected that as need increases, participants will move towards the right of the peak.

Table 6 shows the evolution of loan recipients over the 25-year projection period. An increase in the loan uptake rate is expected as tuition fees and other expenses grow at a faster rate than resources. This is the main cause of the increase in loans issued over the 25-year period.

The product of the number of students enrolled full-time and the CSLP loan uptake rate, resulting from each successive need curve, gives the number of students in the CSLP. Table 6 shows that the loan uptake rate is expected to increase from 36% in 2008-09 to 51% in 2033-34, adding 106,000 students to the Program. Thus, the number of students in the Program is projected to increase from 367,000 in 2008-09 to 473,000 in 2033-34. The number of students in the CSLP shown in Table 6 represents those who receive a Canada Student Loan in each loan year excluding students who only receive a Grant under the new CSGP. As such, some students will receive a grant higher than their assessed need, which may reduce their loan to zero, therefore reducing the projected number of students receiving a loan.

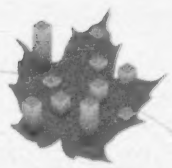


Table 6 Loan Recipients

Loan Year	Students Enrolled Full-Time (thousands)	Loan Uptake Rate (%)	Students in CSLP (thousands)	Annual Increase in CSLP Students (thousands)	Annual Increase in CSLP Students (%)
	(1)	(2)	(1) x (2)		
2008-2009	1,023	35.9	367	-	-
2009-2010	1,073	35.8	385	18	4.9
2010-2011	1,077	36.0	388	3	0.8
2011-2012	1,062	36.2	385	-3	-0.8
2012-2013	1,046	36.5	382	-2	-0.6
2013-2014	1,040	36.7	382	0	-0.1
2014-2015	1,034	37.2	384	2	0.6
2015-2016	1,015	37.7	383	-1	-0.4
2016-2017	994	38.3	381	-2	-0.5
2017-2018	979	39.0	382	1	0.1
2018-2019	966	39.7	383	1	0.4
2019-2020	945	40.3	381	-2	-0.4
2020-2021	919	41.0	377	-5	-1.2
2021-2022	903	41.7	376	0	-0.1
2022-2023	897	42.3	379	3	0.8
2023-2024	890	42.9	382	3	0.7
2024-2025	883	43.5	384	2	0.6
2025-2026	877	44.3	388	4	1.0
2026-2027	876	45.0	395	6	1.6
2027-2028	881	45.8	404	9	2.3
2028-2029	890	46.5	414	10	2.5
2029-2030	899	47.3	425	11	2.6
2030-2031	904	48.0	434	9	2.1
2031-2032	914	48.8	446	13	2.9
2032-2033	923	49.7	459	13	2.8
2033-2034	931	50.8	473	14	3.1

3. New Loans Issued

This section focuses on the determination of the amount of new loans issued in each loan year. The three factors primarily responsible for the evolution of new loans issued are student need, the amount of grants disbursed under the Canada Student Grants Program (CSGP) and the percentage of students reaching the loan limit.

Firstly, an increasing student need will put growing pressure on new loans issued as more students become eligible for, and take, a loan, while those who were previously eligible become eligible for a larger loan. Table 7 shows that the average student need increases from $11,925 in 2008-09 to $27,076 in 2033-34. Although increasing student need causes more students to become eligible to receive a loan, loans to newly eligible individuals are smaller in size and, therefore, slow the growth of the average loan size. This indirectly contributes to moderating the average loan growth over the 25-year period.

Secondly, the new CSGP introduced in loan year 2009-10 will alleviate the financial need of many students thus reducing the amount of loans issued in the Program for the remainder of the projection period. The amount of grants disbursed is projected to increase with the number of students in the CSLP and grow from $523 million in 2009-10 to $643 million in 2033-34 (see Table 15). As the percentage of students at the loan limit increases, the impact of the new grants on loans issued is projected to diminish over time since a greater proportion of students receiving

grants will be above the loan limit due to increasing need; therefore, students will be more inclined to take the full loan amount for which they are eligible. In fact, in 2009-10, projected loans issued are reduced by $133 million due to the new CSGP. This is expected to decrease to $75 million in 2033-34. The CSGP is described in Appendix 1. The monthly grant payments for students from low- and middle-income families are set in the *Canada Student Financial Assistance Regulations* and are assumed to remain constant for the entire projection period. A sensitivity test that indexes the grant amount to inflation is presented in Appendix 4.

Thirdly, a constant loan limit will restrict the growth of new loans issued. In loan year 2009-10, the introduction of the CSGP will initially result in a decrease of the percentage of students at the limit since the unmet need of some students will be satisfied, thus reducing their loan below the $210 per week loan limit. However, over time, as student need increases and the loan limit remains constant, the percentage of students at the loan limit will continue to grow.

The percentage of students at the loan limit reached 50% in 2004-05 but decreased to 34% in 2005-06 due to an increase in the loan limit from $165 to $210. In 2008-09, the percentage of students at the loan limit is 37% and Table 7 shows that this percentage is projected to increase to 72% in 2033-34. These students are not eligible for a further increase in loan size despite increasing cost pressures. This situation is graphically depicted in Chart 2 which shows that over the projection period, an increasing proportion of students have needs that equal or exceed the loan limit.

Table 7 Increase in New Loans Issued

Loan Year	Average Student Need ($)	Increase (%)	% of Students at Limit	New Loans Issued ($ million)	Increase (%)	Students in CSLP (Thousands)	Increase (%)	Average Loan Size ($)	Increase (%)
	(1)		(2)	(3)		(4)		(3) / (4)	
2008-2009	11,925	-	37.1	2,070	-	367	-	5,643	-
2009-2010	12,305	3.2	32.9	2,091	1.0	385	4.9	5,436	-3.7
2010-2011	12,538	1.9	33.4	2,119	1.4	388	0.8	5,469	0.6
2011-2012	12,795	2.0	34.2	2,120	0.0	385	-0.8	5,513	0.8
2012-2013	13,054	2.0	35.3	2,127	0.3	382	-0.6	5,567	1.0
2013-2014	13,341	2.2	36.4	2,147	1.0	382	-0.1	5,624	1.0
2014-2015	13,704	2.7	37.6	2,185	1.7	384	0.6	5,686	1.1
2015-2016	14,106	2.9	38.9	2,201	0.7	383	-0.4	5,749	1.1
2016-2017	14,554	3.2	40.3	2,218	0.8	381	-0.5	5,822	1.3
2017-2018	15,056	3.4	41.9	2,251	1.5	382	0.1	5,898	1.3
2018-2019	15,580	3.5	43.7	2,290	1.7	383	0.4	5,977	1.3
2019-2020	16,128	3.5	45.5	2,309	0.8	381	-0.4	6,054	1.3
2020-2021	16,700	3.5	47.2	2,308	0.0	377	-1.2	6,128	1.2
2021-2022	17,299	3.6	49.1	2,332	1.1	376	-0.1	6,197	1.1
2022-2023	17,925	3.6	50.8	2,376	1.9	379	0.8	6,264	1.1
2023-2024	18,579	3.7	52.6	2,417	1.7	382	0.7	6,327	1.0
2024-2025	19,264	3.7	54.3	2,454	1.5	384	0.6	6,386	0.9
2025-2026	19,980	3.7	56.2	2,502	1.9	388	1.0	6,445	0.9
2026-2027	20,730	3.8	58.2	2,567	2.6	395	1.6	6,506	1.0
2027-2028	21,515	3.8	60.1	2,649	3.2	404	2.3	6,563	0.9
2028-2029	22,338	3.8	62.0	2,739	3.4	414	2.5	6,617	0.8
2029-2030	23,199	3.9	63.9	2,833	3.4	425	2.6	6,669	0.8
2030-2031	24,101	3.9	65.9	2,917	3.0	434	2.1	6,723	0.8
2031-2032	25,046	3.9	67.9	3,025	3.7	446	2.9	6,774	0.8
2032-2033	26,037	4.0	69.9	3,135	3.7	459	2.8	6,830	0.8
2033-2034	27,076	4.0	71.9	3,254	3.8	473	3.1	6,878	0.7

Table 7 shows the annual increase in new loans issued over the 25-year projection period. Overall, the total new loans issued increase from $2,070 million in 2008-09 to $3,254 million in 2033-34, resulting in an average annual increase of 1.8%. This average annual increase can be attributed to two factors: an average annual increase in the number of students in the CSLP of 1.0% and an average annual increase in the average loan size of 0.8%. The average loan size is calculated as the ratio of new loans issued to the number of students in the CSLP. The growth rate of the average loan size is moderated due to the constant loan limit.

New loans issued are driven by an increased number of students becoming eligible for a loan as a result of accelerated student need. The average loan size is not greatly affected since the loan limit is capped over the 25-year period. Any significant increase in the limit would have a major impact on the long-term growth rate of new loans issued.

A sensitivity test demonstrating the effect of annually indexing the limit to the rate of inflation is included in Appendix 4. This scenario demonstrates that the growth rate of new loans issued is significantly higher when the loan limit is increased to better reflect increasing student need.

C. Portfolio Projections

This section presents projections of the portfolio for all three regimes. The amounts for loans in-study represent loans issued to students still in the post-secondary educational system. Interest on loans in-study is fully subsidized by the Government for full-time students in the CSLP. The loans in repayment consist of loans consolidated by students with financial institutions (or the Government) which are still outstanding.

1. Guaranteed and Risk-Shared Portfolios

The Guaranteed and Risk-Shared regimes apply to loans issued before August 2000. Some loans in these regimes are still outstanding since there are still students under these regimes attending post-secondary institutions or repaying their loans. Table 8 presents the projections of the loans, separately for the Guaranteed and Risk-Shared regimes, as well as the projection of defaulted Risk-Shared loans bought back by the Government (principal only). The projection of defaulted Risk-Shared loans is necessary to determine when the limit on the aggregate amount of outstanding loans, imposed by the *Canada Student Financial Assistance Act* (CSFAA), will be reached. Table 8 shows that the Guaranteed and Risk-Shared Regimes are gradually being phased out.

As at July 2009, the sum of all loans in default coming from the Guaranteed and Risk-Shared regimes that are owned by the Government amount to approximately $688 million (principal and interest) and are subject to possible future recoveries. The Guaranteed loans in default are not included in the projection of the Guaranteed portfolio in Table 8. The Government sets up a separate allowance in the Public Accounts for those loan guarantees. This provision calculation is not included in this report.

Table 8 Guaranteed and Risk-Shared Regimes Portfolios

As at July 31	Guaranteed			Risk-Shared			
	Loans In-study (with financial institutions)	Loans in Repayment	Total	Loans In-study (with financial institutions)	Loans in Repayment	Defaulted Loans (bought back by the Government)	Total
	($ million)			($ million)			
2009	7	56	62	85	2,122	149	2,356
2010	3	37	40	65	1,491	116	1,672
2011	2	25	26	48	998	89	1,136
2012	1	16	17	33	643	67	743
2013	-	11	11	21	448	47	516
2014	-	7	7	11	308	42	362
2015	-	4	4	6	212	36	253
2016	-	3	3	2	152	31	185
2017	-	2	2	1	107	26	134
2018	-	1	1	-	73	21	95
2019	-	1	1	-	52	17	68
2020	-	-	-	-	36	13	49
2021	-	-	-	-	25	9	34
2022	-	-	-	-	17	6	24
2023	-	-	-	-	11	5	16
2024	-	-	-	-	6	3	10
2025	-	-	-	-	4	2	6
2026	-	-	-	-	2	1	3
2027	-	-	-	-	1	1	2
2028	-	-	-	-	1	1	1
2029	-	-	-	-	-	-	-

2. Direct Loan Portfolio and Allowances

Under the Direct Loan Regime, according to the accounting recommendations under Section PS 3050 Loans Receivable of the Public Sector Accounting Handbook of the Canadian Institute of Chartered Accountants, a provision should be accounted for as a Program expense since the loans are provided by the Government and not financial institutions. The purpose of this provision is to cover all future net costs and risk of loss associated with loans. As a result, the provision avoids overstatement of Program revenues by immediately recognizing the risk of loss.

The projection of the Direct Loan portfolio includes the balance of outstanding loans, the projection of loans in default for which students have stopped making payments, allowances for bad debt (principal and interest separately) to cover the risk of future default, net of recoveries, from loans disbursed and the allowance for RAP (Principal) to cover the future cost of students benefiting from this program disposition.

The projection of the Direct Loan portfolio is shown in Table 9. The projections use the consolidation, default and recovery distributions discussed in Appendix 3. The distributions of defaults and recoveries for the Direct Loan Regime are based on Direct Loans experience. The future gross default rate is reduced from the previous report to 16.0%. This reduction is attributable in part to the new RAP and improved communication with students in order to explain the repayment options available and raise awareness of the assistance measures available for borrowers experiencing financial hardship. Based on recent experience, the recovery rate is also reduced from the previous report to 26.0%. Overall, the corresponding future net default rate is decreased to 11.8%.

In the short-term, the gross default rate and total recoveries are temporarily adjusted to take into account the recent economic downturn. It is anticipated that some of the borrowers will experience hardship in making their monthly student loan payments and may either default or apply for RAP. The adjustments are based on the employment rate reduction experienced during the 1981-82 recession. Since the economic downturn is not as severe as expected in the previous report, the adjustment to the gross default rate is revised downward. For loan years 2009-10 and 2010-11, the gross default rate is 17.6% and 16.5%, respectively. The total amount of recoveries is reduced by 2.50% and 1.25% for those loan years.

Table 9 Direct Loan Portfolio and Allowances

As at July 31	Loans In-study	Loans in Repayment	Defaulted Loans	Total	Allowance for		
					Bad Debt Principal	Bad Debt Interest	Repayment Assistance Plan – Principal
	($ million)				($ million)		
2009	4,735	5,152	1,406	11,293	2,019	174	223
2010	5,014	5,610	1,489	12,114	2,143	172	253
2011	5,255	6,030	1,599	12,883	2,299	192	283
2012	5,433	6,415	1,689	13,537	2,436	216	311
2013	5,484	6,823	1,766	14,073	2,547	236	337
2014	5,450	7,229	1,835	14,515	2,638	254	361
2015	5,432	7,569	1,902	14,902	2,718	272	383
2016	5,410	7,868	1,962	15,240	2,790	291	402
2017	5,395	8,116	2,021	15,532	2,857	311	418
2018	5,404	8,320	2,078	15,802	2,918	329	433
2019	5,440	8,479	2,132	16,051	2,976	345	445
2020	5,473	8,608	2,179	16,259	3,027	359	456
2021	5,488	8,712	2,220	16,421	3,070	371	466
2022	5,523	8,794	2,257	16,573	3,110	381	475
2023	5,586	8,860	2,288	16,734	3,148	390	484
2024	5,664	8,925	2,315	16,904	3,186	396	493
2025	5,747	9,000	2,340	17,088	3,224	402	503
2026	5,841	9,087	2,365	17,293	3,263	407	512
2027	5,959	9,189	2,389	17,538	3,307	412	522
2028	6,108	9,311	2,416	17,835	3,357	417	533
2029	6,282	9,462	2,445	18,189	3,413	421	545
2030	6,476	9,644	2,479	18,598	3,474	426	559
2031	6,672	9,857	2,518	19,047	3,539	432	573
2032	6,892	10,096	2,564	19,552	3,609	438	590
2033	7,130	10,361	2,616	20,108	3,681	444	608
2034	7,387	10,652	2,675	20,714	3,754	452	627

As at 31 July 2009, the outstanding Direct Loan portfolio is $11.3 billion and is retrospectively derived from new loans issued during loan years 2000-01 to 2008-09 ($15.8 billion), plus the interest accrued during the grace period for these nine years, minus repayments, loans forgiven, and debt reduction in repayment. The defaulted loans are part of the assets and are included in the Direct Loan portfolio projection. The portfolio increases rapidly to reach $14.5 billion within the next five years. By the end of loan year 2033-34, the portfolio reaches $20.7 billion.

Compared to the evaluation as at 31 July 2008, there is no major change in the total portfolio of direct loans. As at 31 July 2033, the total portfolio is 5.1% higher than in the previous report while the portfolio of loans in-study is 4.1% higher. The portfolio of loans in repayment is 13.1% higher due to the reduction in the gross default rate and the anticipated increase in the use

of RAP. The portfolio of loans in default is 16% lower than the previous report due to the reduction in the future gross default rate.

Allowance for Bad Debt – Principal: Table 10 provides the details of the calculations for the projection of the defaulted loans portfolio and the allowance for bad debt – principal under the Direct Loan Regime.

Table 10 Defaulted Loans and Allowance for Bad Debt – Principal

	Defaulted Loans Portfolio					Allowance for Bad Debt – Principal			
Loan Year	Balance 1 August	Defaulted Loans	Collected Loans	Write-offs	Balance 31 July	Allowance 1 August	Write-offs	Allowance 31 July	Yearly Expense
	($ million)					($ million)			
	(1)	(2)	(3)	(4)	(1+2) - (3+4)	(1)	(2)	(3)	(3) - (1 - 2)
2008-2009	1,198	293	85	-	1,406	1,897	-	2,019	122
2009-2010	1,406	275	82	110	1,489	2,019	110	2,143	233
2010-2011	1,489	264	81	74	1,599	2,143	74	2,299	231
2011-2012	1,599	264	80	94	1,689	2,299	94	2,436	230
2012-2013	1,689	275	80	118	1,766	2,436	118	2,547	229
2013-2014	1,766	290	81	139	1,835	2,547	139	2,638	230
2014-2015	1,835	304	84	154	1,902	2,638	154	2,718	235
2015-2016	1,902	312	86	165	1,962	2,718	165	2,790	237
2016-2017	1,962	317	85	173	2,021	2,790	173	2,857	239
2017-2018	2,021	321	83	182	2,078	2,857	182	2,918	243
2018-2019	2,078	324	81	190	2,132	2,918	190	2,976	248
2019-2020	2,132	327	81	199	2,179	2,976	199	3,027	250
2020-2021	2,179	330	82	207	2,220	3,027	207	3,070	250
2021-2022	2,220	333	83	213	2,257	3,070	213	3,110	253
2022-2023	2,257	334	84	219	2,288	3,110	219	3,148	258
2023-2024	2,288	336	85	224	2,315	3,148	224	3,186	262
2024-2025	2,315	339	85	229	2,340	3,186	229	3,224	266
2025-2026	2,340	343	86	232	2,365	3,224	232	3,263	272
2026-2027	2,365	348	87	236	2,389	3,263	236	3,307	279
2027-2028	2,389	353	88	239	2,416	3,307	239	3,357	289
2028-2029	2,416	360	90	241	2,445	3,357	241	3,413	297
2029-2030	2,445	368	91	243	2,479	3,413	243	3,474	305
2030-2031	2,479	378	92	246	2,518	3,474	246	3,539	311
2031-2032	2,518	389	94	249	2,564	3,539	249	3,609	318
2032-2033	2,564	400	96	252	2,616	3,609	252	3,681	324
2033-2034	2,616	413	99	255	2,675	3,681	255	3,754	328

In order to determine the amount of the allowance at a particular point in time, a prospective methodology is used from a snapshot of the portfolio at that time. This approach determines the value of the allowance based on the status of loans. This method considers the past experience of prior cohorts and permits faster recognition of new trends for current and new cohorts of loans.

The calculation of the allowance is separated into three components according to the status of the loan; that is whether the loan is in-study, in repayment (according to the number of years since consolidation) or in default (according to the number of years since default). Future assumed rates of default and recovery are applied to these portfolio amounts to determine the allowance that must be set aside to cover future write-offs.

First, an allowance on the balance of loans in-study is determined using a provision rate of 12.4% which corresponds to a net default rate of 11.8% and an additional upward adjustment of

0.6% for interest accrued during the grace period. An upward adjustment is required because the provision rate is applied to loans issued rather than loans consolidated. The difference between loans at consolidation and loans at issuance is the interest accrued during the grace period which is capitalised into loans at consolidation.

The 12.4% provision rate is applied to the balance of loans in-study, which is calculated at the end of each loan year as:

- the balance of loans in-study at the end of the previous year;
- plus loans issued during the year;
- less the sum of prepaid loans (i.e. paid while in-study or during the six month grace period before consolidation), and loans forgiven while in-study or during the grace period;
- less the value of loans consolidated during the year;
- as well, any loan adjustment due to a re-evaluation must be considered.

Second, an allowance on the balance of loans in repayment is determined using a rate corresponding to the proportion of projected loans in default that will not be recovered. Finally, an allowance is determined on the balance of loans in default that will not be recovered. The level of the total allowance is determined at the end of the year. The expense for bad debt – principal is equal to the difference between the total allowance at the end of a year and the previous year's allowance net of write-offs that have occurred during the year.

Future default and recovery rates are both modified downward from the previous report, to 16% and 26%, respectively, and remain constant in each loan year. To take into consideration the economic downturn, the gross default rate is increased to 17.6% and 16.5% for loan years 2009-10 and 2010-11, respectively and recoveries are reduced for those years. The assumption used for write-offs consists of a 15-year distribution starting in the sixth year following default. A large portion of write-offs occur in the first three years of the distribution to take into account the six-year limitation period and the transfer of defaulted loans to the non-recoverable status. The first significant amount of write-offs is planned for loan year 2009-10. In Table 10, the amount of write-offs projected in loan year 2009-10 includes write-offs that were anticipated for previous loan years but did not occur.

As at 31 July 2009, the actual allowance for Bad Debt – Principal accounted for by HRSDC is $2,168 million. Using the new provision rate, this allowance is reduced to $2,019 million, representing a downward adjustment of $149 million. For loan year 2008-09, the yearly expense of $122 million corresponds to the difference between the new allowance of $2,019 million and the total allowance at the end of loan year 2007-08 which was established to be $1,897 million in the previous report.

In the Public Accounts, Human Resources and Skills Development Canada should show an allowance as at 31 March 2010 corresponding to the allowance of $2,019 million as at 31 July 2009, increased by 12.4% of the monthly net loans issued, reduced by write-offs, if any, for the months from August 2009 to March 2010.

Allowance for Bad Debt – Interest: In accordance with the collection practice, interest accrues on defaulted loans until the loans reach a "non-recoverable" status. A provision is set to cover the risk that such accrued interest will never be recovered. The provision methodology is the same as in the previous report. However, provision rates are modified to take into account that recent experience in recoveries of interest is lower than expected. Chart 3 represents the set of provision rates according to the year since default. The methodology and provision rates are provided in Appendix 3.

Chart 3 Provision Rates for Allowance for Bad Debt – Interest

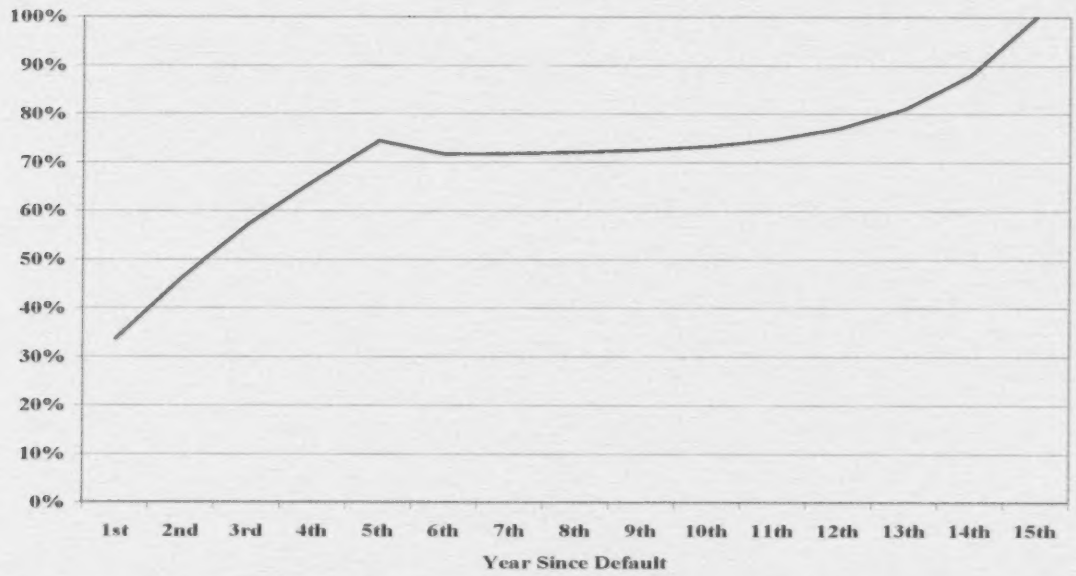
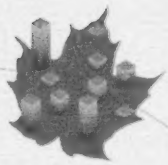


Table 11 Allowance for Bad Debt – Interest

Loan Year	Allowance 1 August ($ million) (1)	Write-Offs ($ million) (2)	Allowance 31 July ($ million) (3)	Yearly Expense ($ million) (3) - (1 - 2)
2008-2009	120	-	174	54
2009-2010	174	39	172	37
2010-2011	172	29	192	49
2011-2012	192	36	216	60
2012-2013	216	45	236	65
2013-2014	236	50	254	69
2014-2015	254	55	272	72
2015-2016	272	57	291	77
2016-2017	291	61	311	81
2017-2018	311	66	329	83
2018-2019	329	69	345	85
2019-2020	345	72	359	87
2020-2021	359	76	371	88
2021-2022	371	80	381	90
2022-2023	381	83	390	91
2023-2024	390	85	396	92
2024-2025	396	87	402	93
2025-2026	402	89	407	94
2026-2027	407	90	412	95
2027-2028	412	91	417	96
2028-2029	417	92	421	97
2029-2030	421	93	426	98
2030-2031	426	94	432	100
2031-2032	432	95	438	101
2032-2033	438	96	444	103
2033-2034	444	98	452	105



The allowance for bad debt – interest on recoverable accounts is determined using the outstanding interest and a variable provision rate for each year since default. The provision rate is set at 33.6% for interest defaults occurring in the first year and increases for the four years following the default. There is a step down in the sixth year, based on the experience of defaulted loans transferred to the "non-recoverable" status, followed by an increase each year thereafter. Under this methodology, the increasing provision rate reflects the fact that the difficulty of recovering defaults increases as the time since default increases. The allowance on non-recoverable accounts is 100% and the interest on these accounts is written off over a 15-year period, starting in the sixth year after the default occurs. The annual expense is equal to the difference between the allowance at the end of a given year and the allowance of the previous year net of write-offs during the year. In the Public Accounts, Human Resources and Skills Development Canada is using this methodology to calculate the allowance and annual expense as at 31 March of each year. The allowance as at 31 March 2010 is determined using the provision rates shown in Table 2 and is around $205 million. This amount is higher than the allowance of $172 million as at 31 July 2010 shown in Table 11 since the projection of the allowance is reduced by an expected amount of write-offs corresponding to $39 million.

As at 31 July 2009, the actual allowance for Bad Debt – Interest accounted for by HRSDC is $155 million. Using the new provision rates, this allowance increases to $174 million, representing an upward adjustment of $19 million. For loan year 2008-2009, the yearly expense of $54 million corresponds to the difference between the new allowance of $174 million and the total allowance at the end of loan-year 2007-08 which was established to be $120 million in the previous report. Write-offs of interest are postponed until loan year 2009-10 which is the first year a significant amount of write-offs is expected.

Compared to the evaluation as at 31 July 2008, there is no significant change in the amount of the allowance for bad-debt – interest throughout the projection period since the higher provision rates counter-balance the effect of the lower amounts of projected default loans.

Allowance for Repayment Assistance Plan - Principal: Table 12 provides the details of the calculation for the projection of the allowance for the Repayment Assistance Plan (RAP) under the Direct Loan Regime.

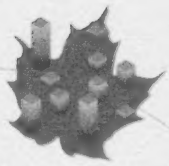
Table 12 Allowance for Repayment Assistance Plan – Principal

Loan Year	Allowance 1 August ($ million) (1)	RAP Expenses ($ million) (2)	Allowance 31 July ($ million) (3)	Yearly Expense ($ million) (3) - (1-2)
2008-2009	114	12*	223	121
2009-2010	223	4	253	33
2010-2011	253	3	283	34
2011-2012	283	5	311	33
2012-2013	311	7	337	33
2013-2014	337	10	361	33
2014-2015	361	12	383	34
2015-2016	383	15	402	34
2016-2017	402	18	418	35
2017-2018	418	21	433	35
2018-2019	433	24	445	36
2019-2020	445	25	456	36
2020-2021	456	26	466	36
2021-2022	466	27	475	36
2022-2023	475	28	484	37
2023-2024	484	28	493	38
2024-2025	493	29	503	38
2025-2026	503	30	512	39
2026-2027	512	30	522	40
2027-2028	522	31	533	42
2028-2029	533	31	545	43
2029-2030	545	31	559	45
2030-2031	559	31	573	46
2031-2032	573	31	590	48
2032-2033	590	31	608	49
2033-2034	608	32	627	51

* DRR Expenses.

Effective August 2009, RAP replaces the Interest Relief (IR) and Debt Reduction in Repayment (DRR) measures. The provision rate for DRR was set at 1.0% in the last report. The allowance for IR was established by HRSDC for accounting purposes to take into account the timing of the interest accrued. The new RAP is described in Appendix 1 and a modest provision for RAP (Stages 1 and 2) – Interest will continue to be determined by HRSDC. Table 12 shows the projection of the allowance for the principal portion of the required payment paid by the Government under Stage 2 (including RAP for borrowers with permanent disabilities).

Compared to the former DRR measure, it is expected that the utilization of the RAP will be higher. However, the Government's RAP expense for those using the plan is initially lower considering that borrowers are required to make affordable payments above a certain income threshold. In fact, principal reductions are done on a monthly basis under RAP as opposed to three possible larger principal reductions, each at 12-month intervals under the former DRR measure. Overall, this increases the projected expenses for a given consolidation cohort. The provision rate for RAP – Principal is set at 1.8%. Being a new program, there is limited experience data on the utilization of RAP. Consequently, the provision rate will be revised in the coming years according to experience.



As for the allowance for bad debt – principal, the provision rate of 1.8% is applied to net loans issued. As at 31 July 2009, the actual allowance for DRR accounted for by HRSDC is $122 million. This allowance will be reversed and used for the allowance for RAP – principal. By using the new higher provision rate of 1.8%, the allowance for RAP – principal as at 31 July 2009 totals $223 million; consequently, an upward adjustment to the existing allowance of $101 million is required. The allowance at the beginning of loan year 2008-09 was calculated to be $114 million in the previous report. The allowance at the end of loan year 2008-09 is $223 million using the new provision rate. The annual expense is equal to the difference between the allowance at the end of a year and the allowance of the previous year net of RAP expenses that have occurred during the year. For loan year 2008-09, the annual expense of $121 million includes the retroactive adjustment that takes into account the increased provision rate. The RAP expense of $4 million in loan year 2009-10 includes those DRR amounts approved before August 2009.

In the Public Accounts, Human Resources and Skills Development Canada should show an allowance as at 31 March 2010 corresponding to the allowance of $223 million as at 31 July 2009, increased by 1.8% of the monthly net loans issued minus RAP expenses for the months from August 2009 to March 2010.

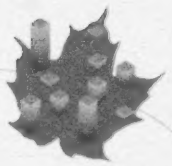
The overall impact of the changes to provision rates (both principal and interest) as at 31 July 2009 is a downward adjustment of $29 million to the Program provisions. This results from a downward adjustment of $149 million to the allowance for Bad Debt – principal and upward adjustments of $101 million to the allowance for RAP – principal and $19 million to the allowance for Bad Deb – interest.

For comparison purposes, Table 13 shows the Direct Loan portfolio in 2009 constant dollars. Starting in loan year 2015-16, the portfolio decreases since the assumed inflation rate is higher than the annual growth of the portfolio in Table 9.

Table 13 Direct Loan Portfolio and Allowances (in millions of 2009 constant dollars)[1]

As at 31 July	Loans In-study	Loans in Repayment	Defaulted Loans	Total	Allowance for		
					Bad Debt Principal	Bad Debt Interest	RAP – principal
2009	4,735	5,152	1,406	11,293	2,019	174	223
2010	4,964	5,553	1,474	11,991	2,121	170	250
2011	5,100	5,852	1,552	12,503	2,232	187	275
2012	5,169	6,104	1,607	12,880	2,317	205	296
2013	5,115	6,365	1,647	13,127	2,376	220	315
2014	4,979	6,605	1,677	13,261	2,410	232	330
2015	4,856	6,766	1,700	13,321	2,430	243	342
2016	4,728	6,875	1,715	13,317	2,438	255	351
2017	4,604	6,926	1,725	13,255	2,438	266	357
2018	4,503	6,933	1,732	13,168	2,432	274	361
2019	4,428	6,900	1,735	13,062	2,422	281	362
2020	4,349	6,841	1,731	12,922	2,406	285	362
2021	4,260	6,762	1,723	12,745	2,383	288	361
2022	4,186	6,665	1,710	12,561	2,357	289	360
2023	4,135	6,558	1,693	12,386	2,330	288	358
2024	4,094	6,451	1,673	12,219	2,303	286	357
2025	4,057	6,353	1,652	12,062	2,276	284	355
2026	4,026	6,264	1,630	11,921	2,250	281	353
2027	4,012	6,186	1,608	11,806	2,226	277	352
2028	4,016	6,121	1,588	11,725	2,207	274	351
2029	4,033	6,074	1,570	11,677	2,191	271	350
2030	4,060	6,046	1,554	11,660	2,178	267	350
2031	4,085	6,035	1,542	11,661	2,167	264	351
2032	4,121	6,036	1,533	11,690	2,158	262	353
2033	4,163	6,050	1,528	11,741	2,149	260	355
2034	4,212	6,074	1,526	11,811	2,141	258	358

[1] For a given year, the value in 2009 constant dollars is equal to the corresponding value divided by the ratio of the cumulative index of the Consumer Price Index (CPI) of that given year to the cumulative index of the CPI for 2009.



3. Limit on Aggregate Amount of Outstanding Loans

The CSFAA imposes a limit on the aggregate amount of outstanding loans in the CSLP. The current limit, in Section 13 of the CSFAA, is set at $15 billion and was increased from the previous $5 billion ceiling through an amendment to the CSFAA in 2000. The CSFAA applies to the Risk-Shared and Direct Loan regimes. The aggregate amount of outstanding loans is the principal portion of all loans disbursed and not yet repaid which consists of the total principal amounts of loans in-study, loans in repayment and defaulted loans. Table 14 presents the projections of the aggregate amount of outstanding Risk-Shared and Direct loans in the CSLP.

As at 31 July 2009, the aggregate amount of outstanding Risk-Shared and Direct Loans is $13.6 billion. This projection shows that the $15 billion limit will be reached during loan year 2014-15. However, monthly fluctuations throughout the year may cause the aggregate amount of loans to exceed the limit prior to loan year 2014-15.

Table 14 Aggregate Amount of Outstanding Risk-Shared and Direct Loans

As at July 31	Risk-Shared Loans	Direct Loans	Total
	($ million)	($ million)	($ million)
2009	2,356	11,293	13,649
2010	1,672	12,114	13,785
2011	1,136	12,883	14,019
2012	743	13,537	14,280
2013	516	14,073	14,589
2014	362	14,515	14,877
2015	253	14,902	15,155
2016	185	15,240	15,425
2017	134	15,532	15,667
2018	95	15,802	15,897
2019	68	16,051	16,119
2020	49	16,259	16,308
2021	34	16,421	16,455
2022	24	16,573	16,597
2023	16	16,734	16,749
2024	10	16,904	16,914
2025	6	17,088	17,093
2026	3	17,293	17,296
2027	2	17,538	17,540
2028	1	17,835	17,837
2029	-	18,189	18,189
2030	-	18,598	18,598
2031	-	19,047	19,047
2032	-	19,552	19,552
2033	-	20,108	20,108
2034	-	20,714	20,714

D. Projection of the Net Cost of the Program

1. Student Related Expenses

The primary expense of the CSLP is the cost of supporting students during their study and repayment periods. This expense includes the interest subsidy, the interest portion of the Repayment Assistance Plan (RAP) and the provision or expenses for RAP – principal under the different regimes. The Government replaced the Canada Millennium Scholarship Foundation (CMSF) with the new Canada Student Grants Program (CSGP) which was implemented in August 2009. As described in Appendix 1, this program includes seven permanent grants as well as a temporary transition grant to take into account that some students were already receiving grants from the former CMSF.

Table 15 Student Related Expenses

Loan Year	Direct Loan			Risk-Shared and Guaranteed		Canada Student Grants Program	Total
	Interest Subsidy	RAP – Interest	Provision RAP – Principal	Interest Subsidy	RAP (Principal and Interest)		
	($ million)			($ million)		($ million)	($ million)
2008-2009	165.2	68.5*	121.0	3.1	15.6**	143.6	517.1
2009-2010	192.0	71.6	33.3	2.5	8.9	523.0	831.3
2010-2011	218.7	85.4	33.6	2.0	6.5	527.0	873.3
2011-2012	238.3	99.8	33.5	1.5	4.7	522.9	900.7
2012-2013	248.3	108.7	33.3	0.9	3.4	519.5	914.2
2013-2014	260.5	118.3	33.4	0.5	2.5	519.1	934.3
2014-2015	272.0	127.0	34.0	0.3	1.8	522.4	957.6
2015-2016	283.3	136.5	34.3	0.1	1.3	520.6	976.0
2016-2017	294.8	145.1	34.6	-	1.0	518.2	993.6
2017-2018	295.2	147.7	35.1	-	0.7	518.9	997.6
2018-2019	297.0	149.4	35.8	-	0.4	520.9	1,003.6
2019-2020	299.0	150.8	36.1	-	0.2	518.6	1,004.6
2020-2021	300.0	151.8	36.0	-	0.1	512.2	1,000.1
2021-2022	301.7	152.4	36.5	-	0.1	511.8	1,002.5
2022-2023	304.9	153.0	37.2	-	-	515.8	1,010.9
2023-2024	309.0	153.6	37.9	-	-	519.5	1,020.0
2024-2025	313.5	154.5	38.5	-	-	522.6	1,029.0
2025-2026	318.5	155.5	39.2	-	-	527.9	1,041.1
2026-2027	324.8	156.8	40.3	-	-	536.6	1,058.4
2027-2028	332.7	158.3	41.7	-	-	548.9	1,081.6
2028-2029	342.0	160.3	43.1	-	-	562.8	1,108.3
2029-2030	352.4	162.8	44.6	-	-	577.7	1,137.5
2030-2031	363.1	165.8	46.0	-	-	590.1	1,164.9
2031-2032	374.9	169.1	47.7	-	-	607.1	1,198.8
2032-2033	387.8	172.9	49.5	-	-	624.2	1,234.4
2033-2034	401.6	177.1	51.4	-	-	643.3	1,273.4

* Interest Relief payments (Direct Loans).
** Interest Relief and DRR payments (Risk Shared and Guaranteed Loans).

The projected interest subsidy in loan year 2009-10 is higher than in the previous report since the expected government cost of borrowing is higher for loan year 2009-10. Over the long-term, the RAP – interest payment is higher than the IR payment projected in the previous report since increased utilization of RAP is anticipated. It is still expected that the recent economic downturn will have an impact on RAP – Stage 1 utilization in loan years 2009-10 and 2010-11 as

borrowers will be more likely to experience difficulty in making their monthly loan payments and may apply for assistance.

In loan year 2008-09, $66 million was disbursed as Canada Study Grants and $78 million as Canada Access Grants, for a total of $144 million. In order to project the total amount of grants disbursed in loan year 2009-10 under the new CSGP, the 2007-08 need assessment data file was used. For loan-year 2009-10, the estimated amount of student grants is $523 million and was validated using the experience data for the first months of the loan year 2009-10. This amount is projected to increase to $643 million at the end of the projection period. Monthly grant amounts are set in the *Canada Student Financial Assistance Regulations* and are assumed to remain constant for the entire projection period for the purpose of this evaluation.

2. Program Risk Expenses

Another expense for the Government is the risk involved in disbursing loans to students. Specifically, the risk of loan default and the risk of loans being forgiven upon a student's death or disability are included in this section.

Table 16 Risks to the Government

Loan Year	Direct Loan		Risk-Shared		Guaranteed	Loans Forgiven	Total
	Provision for Bad Debt						
	Principal	Interest	Risk Premium	Put-Backs & Refunds to FIs	Claims for Defaulted Loans		
	($ million)		($ million)		($ million)	($million)	($ million)
2008-2009	122.3	53.8	0.5	3.2	6.0	16.4	202.1
2009-2010	232.8	37.2	0.3	2.6	4.3	14.4	291.5
2010-2011	230.6	49.2	0.2	1.8	3.2	15.0	300.1
2011-2012	230.3	59.8	0.2	1.3	2.0	15.7	309.2
2012-2013	229.1	64.8	0.2	1.1	1.3	16.5	313.0
2013-2014	230.2	68.8	0.1	1.0	0.8	17.4	318.3
2014-2015	234.8	72.3	0.1	0.8	0.4	18.4	326.8
2015-2016	237.0	76.8	0.1	0.7	0.2	19.1	333.7
2016-2017	239.4	81.4	-	0.6	0.1	19.7	341.2
2017-2018	243.3	83.1	-	0.5	0.0	20.2	347.1
2018-2019	248.0	84.9	-	0.4	0.0	20.6	353.9
2019-2020	250.0	86.7	-	0.3	0.0	20.9	357.9
2020-2021	249.6	88.4	-	0.2	0.0	21.2	359.4
2021-2022	252.6	89.9	-	0.1	-	21.5	364.0
2022-2023	257.8	91.1	-	0.1	-	21.7	370.6
2023-2024	262.4	92.2	-	0.1	-	21.8	376.5
2024-2025	266.5	93.2	-	-	-	22.0	381.7
2025-2026	271.8	94.1	-	-	-	22.2	388.1
2026-2027	279.3	95.0	-	-	-	22.4	396.7
2027-2028	288.6	95.9	-	-	-	22.7	407.2
2028-2029	296.9	97.0	-	-	-	23.0	416.8
2029-2030	304.9	98.2	-	-	-	23.4	426.4
2030-2031	310.9	99.6	-	-	-	23.9	434.4
2031-2032	318.3	101.3	-	-	-	24.4	444.0
2032-2033	323.7	103.2	-	-	-	25.0	452.0
2033-2034	327.9	105.5	-	-	-	25.7	459.1

Under the Direct Loan Regime, the provisions for bad debt (principal and interest) represent the cost of the risk to the Government of being involved directly in the disbursement of loans to students.

Under the Risk-Shared Regime, the risk premium represents the amount paid to lending institutions by the Government based on the value of loans consolidated for repayment in a year. Also included are put-back fees and refunds to financial institutions for loans bought back by the Government.

Put-back fees exist only in the Risk-Shared arrangement as a way to transfer some of the risk back to the Government. According to the agreement, the Government is only obligated to buy back loans in default for at least 12 months, up to a maximum of 3% of the total loans in repayment with the financial institution each year. Financial institutions decide whether to sell defaulted loans, and if so, which ones to sell. The Government pays a put-back fee of five cents on the dollar for these loans.

The entire amount of recoveries on student loans bought back in the Risk-Shared Regime is considered revenue in Table 18. According to the agreement, amounts recovered from income tax refunds are shared with the financial institutions. The participating financial institutions receive a refund of 75% of the amount recovered from income tax refunds in excess of the put-back fees.

For the Guaranteed Regime, defaulted loans are included in claims paid as a statutory expense since the Government bears the entire risk of defaulted loans under this Regime. In the Public Accounts, Guaranteed loans are classified as assets for which provisions for loan guarantees and loans in default are set up.

Loans forgiven correspond to loans that are forgiven (principal only) following the death or permanent disability of a borrower during the period of study, repayment, or even after the loan has been transferred to default status.

3. Other Expenses

Alternative payments are made directly to Québec, the Northwest Territories and Nunavut, which do not participate in the CSLP. The participating provinces and territory are paid a fee to finance the administration of the CSLP.

The administration expenses include the fees paid to provinces, the recovery costs of defaulted loans for the three regimes and general administration, which are the expenses incurred by the departments involved and fees paid to service providers. Recovery costs are nil starting in 2009-10, since private collection activities have been eliminated. Canada Revenue Agency (CRA) is responsible for all collection activities on defaulted loans and for projection purposes, a cost has been added to the projected General Administration fees.

Table 17 Summary of Expenses

Loan Year	Student Related Expenses	Risks to the Government	Alternative Payments*	Administration			Total Expenses
				Fees Paid to Provinces	Recovery Cost	General	
	($ million)	($ million)	($ million)		($ million)		($ million)
2008-2009	517.1	202.1	127.2	12.9	7.3	123.6	990.2
2009-2010	831.3	291.5	126.0	13.1	-	124.9	1,386.8
2010-2011	873.3	300.1	239.0	13.5	-	128.5	1,554.4
2011-2012	900.7	309.2	241.9	13.9	-	132.3	1,598.0
2012-2013	914.2	313.0	241.0	14.3	-	136.4	1,618.9
2013-2014	934.3	318.3	245.4	14.8	-	140.8	1,653.7
2014-2015	957.6	326.8	253.5	15.3	-	145.7	1,698.9
2015-2016	976.0	333.7	260.9	15.9	-	151.0	1,737.5
2016-2017	993.6	341.2	261.5	16.5	-	156.7	1,769.5
2017-2018	997.6	347.1	259.9	17.1	-	162.5	1,784.2
2018-2019	1,003.6	353.9	256.0	17.7	-	168.6	1,799.8
2019-2020	1,004.6	357.9	253.3	18.4	-	174.9	1,809.1
2020-2021	1,000.1	359.4	250.3	19.1	-	181.4	1,810.3
2021-2022	1,002.5	364.0	248.4	19.8	-	188.2	1,822.8
2022-2023	1,010.9	370.6	247.9	20.5	-	195.2	1,845.2
2023-2024	1,020.0	376.5	249.1	21.3	-	202.5	1,869.3
2024-2025	1,029.0	381.7	252.5	22.1	-	210.0	1,895.4
2025-2026	1,041.1	388.1	258.6	22.9	-	217.8	1,928.6
2026-2027	1,058.4	396.7	266.4	23.8	-	226.0	1,971.3
2027-2028	1,081.6	407.2	274.2	24.6	-	234.4	2,022.0
2028-2029	1,108.3	416.8	281.5	25.6	-	243.2	2,075.3
2029-2030	1,137.5	426.4	289.8	26.5	-	252.2	2,132.5
2030-2031	1,164.9	434.4	298.3	27.5	-	261.6	2,186.8
2031-2032	1,198.8	444.0	305.9	28.5	-	271.4	2,248.6
2032-2033	1,234.4	452.0	313.2	29.6	-	281.5	2,310.7
2033-2034	1,273.4	459.1	319.3	30.7	-	292.0	2,374.5

* The calculation of alternative payments is based on expenses and revenues for a given loan year and the payment is accounted for in the following loan year.

As shown in Table 17, total expenses associated with the Program increase from $1.0 billion in 2008-09 to $2.4 billion in 2033-34. On average, total expenses increase at a rate of 3.6% per year from 2008-09 to 2033-34. Compared to the previous report, total expenses are significantly higher due to the introduction of the CSGP.

4. Total Revenue

In Table 18, the revenue for the Direct Loan Regime comes from the interest earned from student loans in repayment, which include interest accrued during the six-month grace period following the study end date, the interest accrued on defaulted loans and the interest portion of RAP. This interest earned is net of interest on loans forgiven. The revenue is reduced by the Government's cost of borrowing to obtain the net interest revenue. The interest on defaulted Direct Loans is accrued until the status of the loans becomes "non-recoverable". The interest recovered on Direct Loans is already considered in the above interest earned calculation and is not shown separately.

Under the Guaranteed and Risk-Shared regimes, there is no interest earned by the Government since students in good-standing pay interest directly to financial institutions. The only source of revenue from these regimes is from recoveries of principal and interest from defaulted loans owned by the Government.

On average, total revenue increases at a rate of 2.7% per year from 2008-09 to 2033-34.

Table 18 Total Revenue

Loan Year	Direct Loan			Risk-Shared	Guaranteed	Total Revenue
	Student Interest Earned	Borrowing Cost	Net Interest Revenue	Principal and Interest from Recovery	Principal and Interest from Recovery	
	($ million)		($ million)	($ million)	($ million)	($ million)
2008-2009	440.9	-195.8	245.1	11.6	32.3	288.9
2009-2010	394.6	-225.4	169.2	9.1	26.3	204.6
2010-2011	493.7	-263.5	230.2	6.6	16.6	253.4
2011-2012	596.6	-294.4	302.1	5.1	10.7	317.9
2012-2013	653.3	-318.6	334.8	3.9	7.3	346.0
2013-2014	710.2	-351.8	358.3	3.2	5.1	366.6
2014-2015	761.3	-385.3	376.1	2.7	3.6	382.3
2015-2016	820.8	-418.2	402.6	2.4	2.5	407.5
2016-2017	879.3	-450.3	429.0	2.0	1.8	432.9
2017-2018	900.3	-462.3	438.0	1.7	1.2	440.9
2018-2019	917.8	-472.2	445.7	1.3	0.9	447.9
2019-2020	933.2	-480.0	453.2	1.0	0.7	454.9
2020-2021	945.7	-486.5	459.1	0.8	0.4	460.3
2021-2022	955.7	-491.9	463.8	0.6	0.3	464.7
2022-2023	964.3	-496.1	468.2	0.4	0.2	468.8
2023-2024	972.5	-499.9	472.6	0.3	0.1	473.0
2024-2025	981.2	-504.0	477.3	0.2	0.1	477.5
2025-2026	990.9	-508.5	482.3	0.1	-	482.5
2026-2027	1,001.8	-513.8	488.0	0.1	-	488.1
2027-2028	1,014.8	-520.0	494.8	-	-	494.8
2028-2029	1,030.6	-527.6	503.0	-	-	503.0
2029-2030	1,049.5	-536.7	512.8	-	-	512.8
2030-2031	1,071.6	-547.6	524.0	-	-	524.0
2031-2032	1,096.3	-560.1	536.3	-	-	536.3
2032-2033	1,124.2	-574.0	550.2	-	-	550.2
2033-2034	1,154.9	-589.3	565.5	-	-	565.5

5. Net Cost of the Program

Table 19 shows, in current dollars, total expenses, revenue and the net cost of the Program for the 25-year projection period, while Table 20 shows the same, but in 2009 constant dollars. The expenses and revenue shown correspond to values presented earlier in this report.

Table 19 Net Annual Cost of the Program

Loan Year	All Regimes			Net Cost of the Program	
	Total Expenses	Total Revenue	Total Net Cost of the Program	Direct Loan	Risk-Shared & Guaranteed
	($ million)		($ million)	($ million)	($ million)
2008-2009	990.2	288.9	701.2	711.5	-2.8
2009-2010	1,386.8	204.6	1,182.1	1,197.0	-10.3
2010-2011	1,554.4	253.4	1,300.9	1,309.0	-14.8
2011-2012	1,598.0	317.9	1,280.1	1,285.4	-8.0
2012-2013	1,618.9	346.0	1,272.9	1,276.6	-5.3
2013-2014	1,653.7	366.6	1,287.1	1,290.1	-3.7
2014-2015	1,698.9	382.3	1,316.6	1,319.2	-3.0
2015-2016	1,737.5	407.5	1,329.9	1,332.4	-2.6
2016-2017	1,769.5	432.9	1,336.6	1,338.6	-2.4
2017-2018	1,784.2	440.9	1,343.4	1,345.0	-2.0
2018-2019	1,799.8	447.9	1,351.8	1,353.2	-1.6
2019-2020	1,809.1	454.9	1,354.2	1,355.3	-1.4
2020-2021	1,810.3	460.3	1,350.0	1,350.8	-1.1
2021-2022	1,822.8	464.7	1,358.2	1,358.8	-0.9
2022-2023	1,845.2	468.8	1,376.4	1,376.9	-0.6
2023-2024	1,869.3	473.0	1,396.3	1,396.7	-0.4
2024-2025	1,895.4	477.5	1,417.9	1,418.1	-0.3
2025-2026	1,928.6	482.5	1,446.1	1,446.2	-0.2
2026-2027	1,971.3	488.1	1,483.2	1,483.2	-0.1
2027-2028	2,022.0	494.8	1,527.2	1,527.2	-0.1
2028-2029	2,075.3	503.0	1,572.4	1,572.4	-
2029-2030	2,132.5	512.8	1,619.8	1,619.8	-
2030-2031	2,186.8	524.0	1,662.8	1,662.8	-
2031-2032	2,248.6	536.3	1,712.4	1,712.4	-
2032-2033	2,310.7	550.2	1,760.5	1,760.5	-
2033-2034	2,374.5	565.5	1,809.0	1,809.0	-

As shown in Table 19, the initial net annual cost for the Direct Loan Regime is $712 million for loan year 2008-09 increases to 1,197 million in 2009-10 due to the new CSGP and RAP. The net cost reaches $1.8 billion in loan year 2033-34. This represents an annual average increase of 3.9% for the entire projection period.

In 2009 constant dollars (Table 20), the cost of the Direct Loan Regime increases by an average of 1.6% a year, from $712 million in loan year 2008-09 to $1,056 million in 2033-34.

Table 20 Net Annual Cost of the Program (in millions of 2009 constant dollars)[1]

Loan Year	All Regimes			Net Cost of the Program	
	Total Expenses	Total Revenue	Total Net Cost of the Program	Direct Loan	Risk-Shared & Guaranteed
	($ million)		($ million)	($ million)	($ million)
2008-2009	990.2	288.9	701.2	711.5	-2.8
2009-2010	1,372.7	202.5	1,170.2	1,184.8	-10.2
2010-2011	1,508.5	246.0	1,262.5	1,270.3	-14.4
2011-2012	1,520.4	302.5	1,217.9	1,223.0	-7.7
2012-2013	1,510.1	322.8	1,187.3	1,190.8	-5.0
2013-2014	1,510.8	334.9	1,175.9	1,178.6	-3.4
2014-2015	1,518.7	341.8	1,176.9	1,179.3	-2.7
2015-2016	1,553.2	364.3	1,188.9	1,191.0	-2.4
2016-2017	1,546.2	378.3	1,167.9	1,169.7	-2.1
2017-2018	1,522.6	376.2	1,146.4	1,147.7	-1.7
2018-2019	1,499.8	373.3	1,126.5	1,127.7	-1.3
2019-2020	1,472.3	370.2	1,102.1	1,103.0	-1.1
2020-2021	1,438.7	365.8	1,072.9	1,073.5	-0.9
2021-2022	1,414.7	360.6	1,054.1	1,054.6	-0.7
2022-2023	1,398.5	355.3	1,043.2	1,043.6	-0.5
2023-2024	1,383.6	350.1	1,033.5	1,033.7	-0.3
2024-2025	1,370.0	345.1	1,024.9	1,025.0	-0.2
2025-2026	1,361.3	340.6	1,020.8	1,020.9	-0.1
2026-2027	1,358.9	336.5	1,022.4	1,022.4	-0.1
2027-2028	1,361.2	333.1	1,028.1	1,028.1	-
2028-2029	1,364.3	330.7	1,033.7	1,033.7	-
2029-2030	1,369.1	329.2	1,039.9	1,039.9	-
2030-2031	1,371.0	328.5	1,042.5	1,042.5	-
2031-2032	1,376.7	328.3	1,048.4	1,048.4	-
2032-2033	1,381.5	329.0	1,052.6	1,052.6	-
2033-2034	1,386.4	330.2	1,056.2	1,056.2	-

[1] For a given year, the value in 2009 constant dollars is equal to the corresponding value divided by the ratio of the cumulative index of the Consumer Price Index (CPI) of that given year to the cumulative index of the CPI for 2009.

III. Conclusion

The Canada Student Loans Program promotes accessibility to post-secondary education for those with demonstrated financial need by providing loans and grants, thereby encouraging successful and timely completion of post-secondary education. In accordance with the section 19.1 of the *Canada Student Financial Assistance Act*, the Office of the Chief Actuary conducts an actuarial review on financial assistance provided under this Act.

The recent economic downturn had an impact on enrolment and loan uptake in loan year 2008-09 and is expected to also influence loan year 2009-10. Specifically, the number of students enrolled full-time in a post-secondary institution is projected to increase by 50,000, from 1,023,000 in 2008-09 to 1,073,000 in 2009-10, while the number of students receiving a CSLP loan is expected to increase by 18,000, from 367,000 to 385,000. The loan uptake of students in post-secondary institutions is projected to increase from 36% to 51% over the projection period. Such an increase in participation in the Program is mainly a result of rising student need. This need is affected by the evolution of tuition fees and other expenses, which increase at a faster rate than resources.

The new Canada Student Grants Program (CSGP), implemented in August 2009, has an impact on the total amount of loans issued. The amount of new loans issued is expected to increase slightly from 2,070 million in 2008-09 to 2,091 million in 2009-10. Thereafter, the amount of new loans issued increases to reach $3,254 million in 2033-34. Moreover, the percentage of students at the loan limit is projected to decrease from 37% in 2008-09 to 33% in 2009-10 due to the new CSGP. This percentage is expected to grow afterward and reach 72% in 2033-34.

The Direct Loan portfolio increases from $11.3 billion in 2008-09 to $20.7 billion by 2033-34. According to the projections, the $15 billion limit on the aggregate amount of Direct and Risk-Shared outstanding loans is expected to be reached in loan year 2014-15.

A new Repayment Assistance Plan (RAP), also implemented in August 2009, replaces the Interest Relief and Debt Reduction in Repayment (DRR) measures. The DRR allowance is replaced by a RAP – principal allowance and the provision rate is set at 1.8%, which is higher than the rate of 1.0% used for DRR.

The future gross default rate is reduced to 16% due in part to the new RAP and improved communication with students in order to explain the repayment options available and raise awareness of the assistance measures available for borrowers experiencing financial hardship. Based on recent experience, the recovery rate has also been reduced. The provision rate for bad debt – principal, applied to net loans issued, is reduced to 12.4%. The provision rates for bad debt – interest, applied to the balance of recoverable interest according to the year since default, are increased to reflect the reduction in interest recoveries recently experienced.

The total net cost of the Government's involvement in the CSLP, which is the difference between expenses and revenue, is expected to grow from $0.7 billion in 2008-09, to $1.2 billion in 2009-10 due to the increased direct help provided to students in the form of the new CSGP. Thereafter, the net cost increases to reach $1.8 billion at the end of the projection period.

IV. Actuarial Opinion

In compliance with the standards of practice of the Canadian Institute of Actuaries, we are hereby giving the opinion that,

- the data on which this report is based are sufficient and reliable;
- the demographic and economic assumptions used are, in aggregate, appropriate; and
- the valuation conforms with the requirements of the Public Sector Accounting Handbook of the Canadian Institute of Chartered Accountants.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice.

Michel Millette, F.S.A., F.C.I.A.
Senior Actuary

Jean-Claude Ménard, F.S.A., F.C.I.A.
Chief Actuary

Ottawa, Canada
11 June 2010

V. Appendices

Appendix 1 – Summary of Program Provisions

The Canada Student Loans Program (CSLP) came into force on 28 July 1964 to provide Canadians equal opportunity to study beyond the secondary level and to encourage successful and timely completion of post-secondary education. The Government became involved in order to assist students because post-secondary education is costly. The CSLP is meant to supplement resources available to students from their own earnings, their families and other student awards.

Historically, two successive acts were established to assist qualifying students. The *Canada Student Loans Act* (CSLA) was established, applying to loan years preceding August 1995 and the *Canada Student Financial Assistance Act* (CSFAA) replaced the previous act for loan years after July 1995. Both acts permit the Minister of Human Resources and Skills Development Canada to provide loans to eligible students under the CSLP.

1. Eligibility Criteria

A student must be a Canadian citizen, within the meaning of the *Immigration Act* and must demonstrate the need for financial assistance to become eligible to receive a loan. A student must also fulfill a series of criteria (scholastic standard and financial) to be considered for a loan. Upon application each year to their province of residence, loans are available to full-time students regardless of age and, since 1983, to part-time students.

2. Partnerships

Since inception in 1964, the Minister has delegated powers, under both appropriate acts, to the participating provinces/territory to administer the CSLP. The participating provinces have their own student financial assistance programs that complement the CSLP. On behalf of the Government of Canada, the provinces and territory determine whether the students require financial assistance and their eligibility for the CSLP. Provincial/territorial authorities calculate the costs and determine the need of the student based on the difference between costs and available resources. For each school year, the CSLP covers 60% of the assessed need up to a maximum of $210 per week. The participating provinces complement the CSLP by providing the remaining 40% of assessed need up to the province's weekly loan limit. The amount of money students may borrow depends on their individual circumstances.

The National Student Loans Service Centre (NSLSC) was established 1 March 2001 to assist students with questions related to the CSLP. Once students qualify for a loan, they obtain their loans from the Government of Canada. The service provider receives and processes all the applicable loan documentation; i.e., from the disbursement to the consolidation and repayments of the loans. It also keeps the students informed of all available options to assist in repaying the loan.

The type of financial arrangement has varied through time and legislation. The following describes these different arrangements and who bears the risk associated with default.

- Guaranteed Loan Regime: Student loans provided by lenders (financial institutions) prior to August 1995, under the *Canada Student Loans Act*, are fully guaranteed by the Government to the lenders. The Government reimburses the lenders for the outstanding principal, accrued interest and costs in the event of default or death of the borrower. Therefore, the Government bears all the risk involved with Guaranteed loans.
- Risk-Shared Loan Regime: For the period from August 1995 to July 2000, student loans continued to be disbursed, serviced and collected by financial institutions; however, the

loans were no longer fully guaranteed by the Government. Instead, the *Canada Student Financial Assistance Act* permitted the Government to pay financial institutions a risk premium of five per cent of the value of loans that consolidated each loan year. Under this financial arrangement, the Government is not at risk except for the payment of the risk premium. Also, financial institutions can decide to sell a certain amount of defaulted loans and the Government has to pay a put-back fee of five cents on the dollar for these loans. A part of the recoveries is shared with financial institutions.

- Direct Loan Regime: A new direct loan arrangement came into force, effective 1 August 2000, following the restructuring of the delivery of the Program and amendments made to the *Canada Student Financial Assistance Act* and Regulations. The Government issues loans directly to the student and, again, bears all the risk involved.

3. Loan Benefit

a) In-study Interest Subsidy

The CSLP provides an interest-free loan during the period that the student is studying full-time. The benefit is available to full-time students and takes the form of an in-study interest subsidy. During this period, the Government pays interest (Government cost of borrowing) on the loan and no payment on the principal is required.

In the past, part-time students were provided assistance in the form of a line of credit. Unlike full-time students, they were required to make interest payments while in school. If a student's income was below a certain level while in school, the student could qualify for Interest Relief. However, further to Budget 2008, the *Canada Student Financial Assistance Act* was amended effective 1 August 2009 such that, like full-time students, part-time students will benefit from an interest-free loan during the period of study.

Since June 2008, members of the Reserve Force who interrupt their program of study to serve on a designated operation are considered full-time students until the last day of the month in which their service ends and, as such, benefit from an extended in-study interest-free period.

b) Loan Consolidation

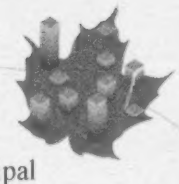
At graduation, or if the student does not return to school, all of the student's loans are consolidated or added together during the six-month grace period. During this period, interest accrues on the loan(s) but no payment is required; the student must negotiate an agreement to set out the repayment terms. Once consolidation occurs, the student is considered a borrower in repayment. Since July 1995, the interest rate used to calculate the monthly payment is equal to the prime rate plus 250 basis points for the majority of students.

For loans issued prior to August 1993, interest did not accrue during the grace period because the Government continued to pay interest on the loans during this period in the same manner as for the in-study period. For loans issued after July 1993, the student is liable for interest that accrues on loans during the grace period.

Students must provide their financial institution or the NSLSC with proof of enrolment for each study period in which they are enrolled even if they are not applying for a new loan. This prevents automatic consolidation from occurring while the student is still in school and prevents interest accruing on the loan.

c) Repayment Assistance

In 1983, the Government introduced a repayment assistance measure in the form of an Interest Relief to assist students experiencing financial difficulty in repaying their loan. The Government



assumes the responsibility for making interest payments on the outstanding loan and no principal payments are required. This measure has been improved over time and since 1998, a borrower in financial difficulty could be awarded a total of 30 months of Interest Relief during the repayment period, with an additional 24 months if the borrower was still within the first five-year period after leaving school. In determining eligibility for Interest Relief, a borrower's monthly family income had to fall below an established income threshold in relation to the required monthly payment on the loan. In 2005, the Government increased the income thresholds by 5 percent.

In 1998, the Government introduced the Debt Reduction in Repayment (DRR) measure to help students who remain in financial difficulty after all possible Interest Relief measures are exhausted. Since 2005, the principal loan reductions correspond to two reductions of up to $10,000 each and a third reduction of up to $6,000. To determine whether the previous reduction has resulted in a manageable debt level, twelve months must elapse between each reduction. The table below briefly describes this assistance since its introduction.

Table 21 Debt Reduction in Repayment

Year	Maximum Reduction per 12-month Period*			Total Maximum Reduction
2005	1st - $10,000	2nd - $10,000	3rd - $6,000	$26,000
2003	1st - $10,000	2nd - $5,000	3rd - $5,000	$20,000
1998	50% of loan principal			$10,000

* Borrowers still experiencing financial hardship may be eligible for another reduction in 12 months.

Budget 2008 announced a new Repayment Assistance Plan (RAP) replacing the Interest Relief and DRR measures, starting with the 2009-10 loan year. RAP is designed to make it easier for borrowers to manage their debt by calculating affordable payments ($0 for those under the established minimum income threshold, or from 1% to 20% of family income for those above the established minimum income threshold) based on family income and family size. Borrowers are deemed eligible for RAP for a six month period if their affordable payment is less than their required monthly payment. RAP is composed of two stages to help student borrowers fully repay their loan within 15 years of leaving school or completing their studies (or 10 years for borrowers with a permanent disability).

Under Stage 1, the required monthly payment is determined by amortizing a borrower's outstanding principal amount over a period that ends 120 months after they ceased to be a student. The borrower's monthly affordable payment, if any, goes directly towards the loan principal, while the Government covers the interest amount not covered by the affordable payment. The principal portion of the loan not covered by the affordable payment is deferred similar to the former Interest Relief measure. Stage 1 can last for a maximum of five years in cumulative six-month periods.

Stage 2 is available to borrowers who continue experiencing financial difficulty after Stage 1 has been completed or those whose loan has been in repayment for more than 10 years. Under Stage 2, the required payment is calculated by reamortizing the outstanding principal between the date of the beginning of Stage 2 and the date corresponding to 15 years after the borrower left school (10 years for borrowers with a permanent disability). The Government covers both the required principal amount and the interest amount not covered by the borrower's affordable payment such that the student loan has been repaid in full within 15 years (10 years for borrowers with a permanent disability) of the borrower leaving school.

Borrowers with a permanent disability who are not eligible for loan forgiveness have access to RAP. Additional expenses related to costs that permanently disabled borrowers face are taken into account in the income calculation and the borrower proceeds directly to Stage 2 of RAP.

d) Loan Forgiveness

The Minister has the authority, upon application and qualification, to forgive the loan in the event of a borrower's permanent disability or death while in school or during the repayment period. Effective 1 August 2009, in order for a borrower's loan to be forgiven due to a permanent disability, the Minister must be satisfied that the borrower's condition respects the definition of "severe permanent disability", is unable to repay the student loan and will never be able to repay it.

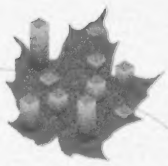
4. Canada Student Grants Program

Canada Study Grants were introduced in 1995 as non-repayable grants administered by the participating provinces on the Government's behalf. These grants are taxable and assist students with permanent disabilities, high-need part-time students, women pursuing certain doctoral studies and students with dependents.

Canada Access Grants have existed since loan year 2005-06 and include grants for students from low-income families as well as grants for students with permanent disabilities.

Budget 2008 announced the launch of a new Canada Student Grants Program (CSGP) which takes effect in the 2009-10 loan year and replaces the Canada Millennium Scholarship Foundation (CMSF). The CSGP consolidates federal student financial assistance grants into a single program that will provide more effective support for students and families and help them manage the cost of post-secondary education. This program includes seven permanent grants as well as a temporary transition grant for former CMSF bursary recipients.

The main benefit of the program is to improve access to and completion of post-secondary education for low- and middle-income families. Under the CSGP, students qualifying for a federal student loan and meeting specific grant eligibility requirements will receive a grant of $250 per month of study for those from low-income families and $100 per month for those from middle-income families. The monthly grant amounts are stated in the *Canada Student Financial Assistance Regulations*. The low- and middle-income thresholds are based on family size and province of residence and are set out in Table 1 and Table 2 of Schedule 3 of the Regulations. Other grants covered under the CSGP umbrella include grants for persons with permanent disabilities, grants for services and equipment for persons with permanent disabilities, grants for persons with dependents, grants for part-time students, and grants for part-time students with dependents.



Appendix 2 – Data

The input data required with respect to Direct loans were extracted from data files provided by Human Resources and Skills Development Canada (HRSDC).

1. Direct Loans Issued

Table 22 presents the data extracted from HRSDC files on the number of students and amount of Direct loans issued for loan years 2000-01 to 2008-09 compared with HRSDC publicized data. The data regarding loans issued were found to be complete.

Table 22 Direct Loans Issued and Number of Students

	Amount of Loans Issued		Number of Students	
Loan Year	HRSDC File	HRSDC Publication	HRSDC File	HRSDC Publication
	($ million)	($ million)		
2000-01	1,573	1,570	343,746	346,568
2001-02	1,507	1,512	328,653	331,541
2002-03	1,545	1,549	328,989	331,763
2003-04	1,643	1,648	340,200	342,982
2004-05	1,629	1,633	337,247	339,828
2005-06	1,938	1,939	343,634	345,765
2006-07	1,935	1,931	344,422	345,124
2007-08	2,006	2,015	352,208	354,144
2008-09	2,068	2,081	365,103	366,788

According to the Monthly Financial Information Schedule (MFIS), the total amount of loans issued in 2008-09 was $2,070 million, which is slightly higher than the value calculated using the data file. The MFIS value is used as the starting point for projections in this report.

2. Direct Loans Consolidated

Table 23 presents the number and amount of consolidated Direct loans extracted from HRSDC data files. The amounts are compared with data from MFIS. For some cases, the consolidation date is not available in the data file and is approximated from the last post-secondary end date. The consolidation amounts are overestimated, especially in more recent loan years, since some students who are assumed to have consolidated their loan are, in fact, still in school or will return to school.

Table 23 Direct Loans Consolidated

	Amount of Loans Consolidated (Including Six-month Interest in the Grace Period)	
Loan Year	HRSDC File	MFIS
	($ million)	($ million)
2000-01	45.6	62.2
2001-02	618.0	772.2
2002-03	935.6	988.8
2003-04	1,156.4	1,151.4
2004-05	1,357.8	1,296.7
2005-06	1,403.5	1,346.4
2006-07	1,623.4	1,519.3
2007-08	1,843.9	1,619.3
2008-09	1,997.2	1,624.0

3. Defaults and Recoveries for Direct Loans

Table 24 shows the data on defaults and recoveries (principal only) for Direct loans extracted from HRSDC data files. Default amounts are reduced by loans recalled and rehabilitated.

Table 24 Defaults and Recoveries for Direct Loans

Loan Year	Defaults	Recoveries
	($ million)	($ million)
2000-01	5.3	0.3
2001-02	4.9	0.7
2002-03	226.2	23.8
2003-04	250.4	48.8
2004-05	343.2	83.0
2005-06	255.5	85.6
2006-07	243.1	83.7
2007-08	287.4	91.8
2008-09	293.3	85.2

4. Interest Relief

Table 25 compares Interest Relief payments made by HRSDC for Direct Loans and the Interest Relief expense extracted from the HRSDC data files. The Interest Relief file does not contain Interest Relief payment information; payments are estimated using an assumed interest rate, outstanding principal amounts and Interest Relief start and end dates.

Table 25 Interest Relief Payment Data for Direct Loans

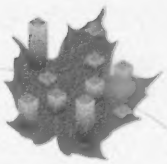
Loan Year	Estimated from HRSDC Files	MFIS
	($ million)	($ million)
2000-01	0	0
2001-02	3.9	3.1
2002-03	14.5	13.8
2003-04	25.0	21.7
2004-05	35.4	32.8
2005-06	49.7	50.6
2006-07	66.8	68.7
2007-08	83.2	80.8
2008-09	74.8	68.5

5. Debt Reduction in Repayment

A DRR experience data file was received for this report, including data for loan years 2006-07 to 2008-09. DRR for borrowers with loans under more than one type of regime are aggregated. Table 26 shows payment amounts of DRR and compares the total amount of DRR in the HRSDC data file with the total amount that appeared in MFIS (for Direct loans) and the Statutory expenditures received from HRSDC (for Risk-Shared and Guaranteed loans).

Table 26 Debt Reduction in Repayment

Loan Year	Estimated from HRSDC Files (total for all regimes)	Statutory expenditures: MFIS (Direct Loans)	Statutory expenditures: (Risk-Shared and Guaranteed loans)	Total
	($ million)	($ million)	($ million)	($ million)
2006-07	24.2	5.4	16.5	21.9
2007-08	21.0	8.7	14.3	23.0
2008-09	17.0	12.3	9.3	21.6



Appendix 3 – Assumptions and Methodology

1. Growth of Total Loans Issued

The growth of total loans issued is related to the number of students participating in the CSLP, the evolution of need of those CSLP students and the loan limit. The evolution of the number of CSLP students and their need is discussed below.

a) Evolution of Number of CSLP Students

i) Demographic Evolution

The demographic evolution involves changes in the composition of the future population aged 18-34 for Canada, excluding the non-participating province of Québec and the territories of the Northwest Territories and Nunavut. Future fertility, mortality and migration assumptions are applied to this population. The fertility, mortality and migration assumptions are based on those used in the most recent actuarial reports of the Canada Pension Plan and Old Age Security.

ii) Post-secondary Enrolment

The evolution of post-secondary enrolment shows a long-term decrease in post-secondary enrolment primarily caused by the labour shortage forecasted in Canada after the year 2015. It is anticipated that this labour shortage will be caused by the significant aging of the Canadian population and will considerably raise labour force participation rates in the age range 18-34. A higher expected labour force participation rate in the future implies that a smaller percentage of potential students will choose to attend a post-secondary institution on a full-time basis. The labour force non-participation rates associated with post-secondary enrolment are shown for years 2008-09, 2016-17 and 2033-34 in Table 27 below.

Table 27 Labour Force Non-participation Rates by CSLP Age Band

	Not in Labour Force		Change -	Not in Labour Force	Change -
	2008-09	2016-17	Not in Labour Force	2033-34	Not in Labour Force
Age Band	(1)	(2)	(2) / (1) -1	(3)	(3) / (1) -1
	%	%	%	%	%
18-21	28.2	28.2	0.1	26.2	-7.2
22-24	25.4	23.8	-6.2	20.3	-19.8
25-29	16.6	16.0	-3.4	13.6	-17.8
30-34	15.9	15.6	-1.9	13.7	-14.0
18-34	20.6	19.8	-4.1	17.7	-14.2

Table 27 shows a decrease in the inactive population, with an expected cumulative decrease of 4.1% over the next eight years and a larger decrease of 14.2% by 2033-34. The labour shortage will cause the expected decrease in the population not participating in the labour force from 2016-17 to 2033-34. The decrease is mainly for individuals above age 22 since they are more likely to choose being employed over attending school for a long period of time if suitable work is available to them. The younger age group is more likely than the older age group to attend college or university regardless of the situation in the labour force.

iii) Participation in the CSLP

HRSDC has provided CSLP need assessment data for previous loan years, up to and including 2007-08. The CSLP need per week was determined using the following calculation:

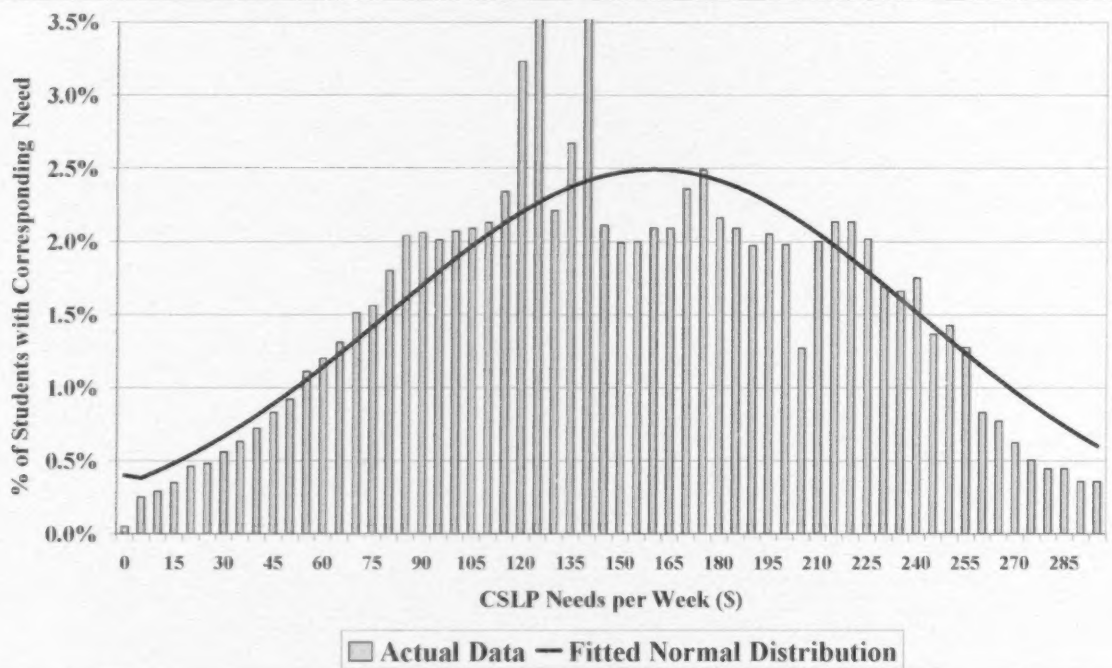
CSLP need per week = (assessed need / number of assessed weeks) x 60%.

The CSLP weekly need represents 60% of the assessed weekly need because the CSLP provides 60% of the total loan, while the participating province or territory of residence provides the remaining 40%. A histogram of the CSLP weekly need was created for three distinct groups, based on student living arrangements. The three groups are as follows:

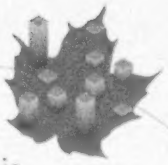
- Single dependent and single independent living at home
- Single dependent living away from home
- Married/common law, single independent and single parent living away from home

The histogram of weekly need resembles a normal distribution for each of the three groups. For illustration purposes, Chart 4 below shows the normal distribution fitted to the actual CSLP student weekly need data for the second group: single dependent living away from home.

Chart 4 Actual Need and Fitted Normal Distribution 2007-08 for Single Dependent, Living Away



The need distribution is derived using an adjusted statistical normal distribution in order to provide a better fit to historical data. First, at $0 of need, there will be no loans issued and no loans will be issued for negative need. A second-degree polynomial replaced the normal distribution to the left of the peak to ensure the distribution complied with this logic. Second, the proportion of students at or above the loan limit is known for this historical data, so the entire curve was shifted slightly to the right to reflect the proper proportion. The new



distribution created by making these small adjustments is used for projection purposes and is referred to as the modified normal curve.

For each year in the projection period, the average need increase from the prior year was calculated using the projections for tuition fees, other expenses and resources. Students with low need may experience a small increase in their need since they have resources to offset the expense increase. Students with high need will experience a larger need increase because they do not have sufficient resources to offset an increase in expenses.

The projected average need increases are used to determine new parameters for the modified normal curve in each of the projection years. Analysis of previous need assessment data showed that the mean of the need curves increased at a slower rate than the projected average student need. Thus, the mean of the CSLP student need curve is assumed to be the average of the prior year plus 60 percent of the projected average student need increase. After the new parameters are determined, the CSLP student need curves are projected for the 25-year period.

Since a shift in each modified normal curve represents the increase in the proportion of students in the CSLP, an assumption was made regarding the growth of the curves. The intersection of subsequent curves is assumed to occur at the need corresponding to the average need of the prior year plus one-half of the projected average need increase during the current year. Having the intersection of curves occur slightly to the right of the average need makes sense because as need increases from year to year, students will move further to the right of the need curve. Using this assumption, each curve was adjusted, resulting in the area under successive curves exceeding 100%. The increased area under the curve represents an increase in participation in the CSLP. Beginning with the base need curve for 2008-09, the area under the curve is 100% and the loan uptake rate is 35.9%. The area under the need curve for loan year 2009-10 remains at 100% due to the new CSGP that will slightly minimize the increase in the number of students for that loan year. The area under the need curve for loan year 2010-11 is 100.4% due to an increase in the proportion of students in the CSLP for that loan year. Thus, the loan uptake rate for 2010-11 is 36% (35.9% x 1.004). The product of the number of students enrolled full-time and the loan uptake rate equals the number of students in the CSLP.

b) Evolution of CSLP Student Need

As discussed in the Main Report, student need is defined as the excess of tuition and other expenses over student resources. These elements were also checked for consistency with the average values contained in the need assessment files. Table 5 of the Main Report shows the evolution of student need throughout the projection period.

i) Tuition

Tuition fees are, in part, determined by government policies. Thus, they are determined using provincial budgets stating the government's intentions, along with recent and historical experience for projecting short and long-term increases in tuition fees. The short-term increase of tuition is shown in Table 28.

Table 28 Short-term Increase of Tuition Expenses

Province	Weight	Budget/Experience	Results			
			2009-10	2010-11	2011-12	2012-13
	%		%	%	%	%
Newfoundland	2.0	tuition freeze	0.0	0.0	0.0	0.0
Prince Edward Island	0.9	2.6% increase, 2.0% thereafter	2.6	2.0	2.0	2.0
Nova Scotia	5.6	2.5% decrease, freeze thereafter	-2.5	0.0	0.0	0.0
New Brunswick	4.0	tuition freeze	0.0	0.0	0.0	0.0
Ontario	58.8	4.9% increase, 5.0% thereafter	4.9	5.0	5.0	5.0
Manitoba	2.0	4.9% increase, 4.5% thereafter	4.9	4.5	4.5	4.5
Saskatchewan	2.7	4.0% increase, 3.0% thereafter	4.0	3.0	3.0	3.0
Alberta	9.0	3.7% increase, indexed to inflation thereafter	3.7	2.0	2.0	2.0
British Columbia	15.0	1.9% increase, 2.0% thereafter	1.9	2.0	2.0	2.0
Weighted Average			3.6	3.6	3.6	3.6

The long-term estimate of tuition is based on past increases in tuition relative to increases in CPI. Over the last 30 years, tuition increases have been, on average, close to CPI plus 3.0%. In the past, government budgetary cost pressures caused tuition fees to rise more quickly than inflation. Since similar budgetary pressures are expected in the future due to the aging of the population, the 3.6% tuition increase for 2012-13 is graded to reach the CPI increase plus 3% by 2017-18.

The starting point for the 2008-09 tuition fees is calculated from a Statistics Canada Education Division survey on tuition fees, tabulated on a provincial basis. The average tuition was weighted by the total amount of loans issued in each participating province. This analysis resulted in an estimate of $6,001 for average tuition fees in 2008-09.

ii) Other Expenses

Other expenses are considered to be any student expense other than tuition fees. These expenses include books, shelter, food, clothing and transportation and are assessed by the participating provinces and territory.

Expenses are separated into two categories: books and living costs. Several past need assessment files were analyzed and used to update the assumptions on student living arrangements and the percentage of maximum allowable expenses incurred by living situation. Table 29 uses these assumptions to calculate an annual living cost of $9,159 per student for 2008-09.

Table 29 Monthly Living Costs 2008-09

Living Arrangement	Weight in %	Maximum Monthly Living Costs ($)					Avg % Spent	Annual Living Costs ($)
		Shelter	Food[1]	Transportation	Miscellaneous[2]	Total		
Single, living away from home	66.5	474	220	67	237	998	72	8,620
Single Parent	7.0	761	220	67	237	1,285	100	15,424
Married Student & Spouse	8.5	945	404	133	447	1,929	84	19,449
Single, living at home	18.0	0	177	58	185	428	75	3,856
Weighted Average		**449**	**228**	**71**	**246**	**995**		**9,159**

[1] Purchased from stores.
[2] Personal and health care, clothing, household cleaning, communications.

Books and supplies are assumed to be roughly equal to 20% of tuition, which is $6,001 for 2008-09. The assumption of 20% is consistent with the ratio of books and supplies to tuition which was calculated using past need assessment data. The total expense attributable to

books and supplies is $1,200 (20% x $6,001). Since 1 August 2005, eligible expenses under books and supplies include an annual allowance of up to $500 for computers and computer-related costs. It is anticipated that all students will claim the annual computer allowance. Thus the total expense attributable to books and supplies is increased by $500 for a total of $1,700. The total amount of the CSLP student expenses (excluding tuition), indexed to future increases in the CPI, amounts to $10,859 ($9,159 + $1,700) for loan year 2008-09.

iii) Student Resources

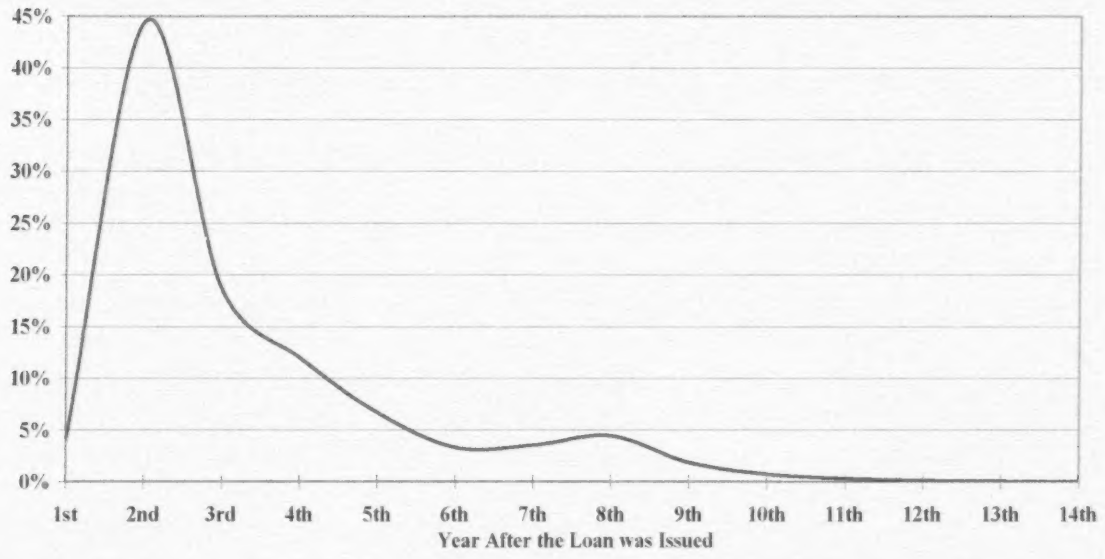
Student resources include student earnings, parental contributions and other resources. Increased resources ultimately serve to reduce the maximum loan available to students through need analysis. Student need is developed in Table 5 of the Main Report.

The starting point for average resources in 2008-09 is calculated as a residual value. Since the average loan size approximately equals average expenses minus average resources, then average resources are roughly equal to average expenses minus average loan size with an adjustment for unmet need. This results in an estimate of $5,078 for a student's average resources in 2008-09. The expected average resources are slightly reduced for loan year 2009-10 and 2010-11 due to the economic downturn. The reduction in student resources is gradually phased out over the following two loan years.

2. Consolidation

Under the Direct Loan Regime, loans are assumed to consolidate according to the distribution of consolidation by year shown in Chart 5 over a period of fourteen years after a loan is issued. This distribution is built using the first nine years of data for Direct Loan consolidations. A constant decreasing rate is applied for the years that follow. The distribution is slightly modified in the short term to take into account the impact of the recent economic downturn on consolidations since some students chose to either stay in or return to school.

Chart 5 Distribution of Consolidation



3. Repayment Assistance Plan (Stage 1)

Effective August 2009, the Repayment Assistance Plan (RAP) replaces the Interest Relief and Debt Reduction in Repayment measures. RAP consists of two stages that are described in Appendix 1. Borrowers can be enrolled in Stage 1 for up to five years over a ten-year period. Borrowers who qualify will make an affordable payment (or no payment) toward their loan principal. The Government will cover the interest amount not covered by the borrower's affordable payment.

Based on the same methodology used for Interest Relief, Table 30 shows the base utilization rates of RAP (Stage 1) for the Direct Loan Regime for loan year 2009-10 and onwards. These rates are based on the Interest Relief experience of Direct loans as well as the small amount of data available for RAP. These rates incorporate the average time spent on RAP Stage 1 in a loan year.

It is anticipated that the economic downturn will have an impact on RAP Stage 1 utilization in the short-term. To reflect this, the anticipated job losses of borrowers in repayment were projected using a proportion of the employment rate decrease experienced in the 1981-82 economic downturn. Based on the actual distribution of newly defaulted loans and loans newly on Interest Relief in loan year 2008-09, the borrowers who are projected to experience hardship in repaying their loan are split into those who will default and those who will apply and be eligible for RAP Stage 1. As a result of the economic downturn, RAP Stage 1 (interest) payments increase by 9.9% and 3.2% for loan years 2009-10 and 2010-11, respectively.

Since the loan limit is frozen in the future, it is anticipated that RAP Stage 1 utilization will decrease as the average earnings of borrowers increase over time. In order to reflect this anticipated decrease in utilization, RAP Stage 1 utilization rates are adjusted downward beginning in 2012-13. Compared to the results if utilization rates remained unchanged, this will result in a decrease in the amount of RAP Stage 1 (interest) issued, fewer borrowers exhausting RAP Stage 1 and subsequently, fewer borrowers becoming eligible for RAP Stage 2.

Table 30 RAP Stage 1 Utilization Rates for the Direct Loan Regime

Years Since Consolidation	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year
0 – 1	21.88%	19.82%	12.52%	10.03%	7.59%	3.76%	2.51%
1 – 2	2.48%	1.71%	1.01%	0.70%	0.40%	0.39%	
2 – 3	0.78%	0.56%	0.30%	0.12%	0.09%		
3 – 4	0.38%	0.26%	0.12%	0.04%	0.03%		
4 – 5	0.19%	0.13%	0.05%	0.01%	0.01%		
5 – 6	0.09%	0.07%	0.02%	0.01%	0.01%		
6 – 7	0.04%	0.03%	0.01%	0.01%			
7 – 8	0.01%	0.01%	0.01%				

4. Repayment Assistance Plan (Stage 2)

RAP Stage 2 is available for borrowers who continue to experience financial difficulty. It starts once the borrower completes Stage 1 or has been in repayment for 10 years after they leave school or complete their studies. The Government will continue to cover the interest and begin to cover a portion of the principal (i.e. the difference between the affordable payment and required payment), on a monthly basis. The balance of the loan should be gradually paid off such that the student loan debt has been repaid in full within 15 years of the borrower leaving school (or 10 years for borrowers with a permanent disability).

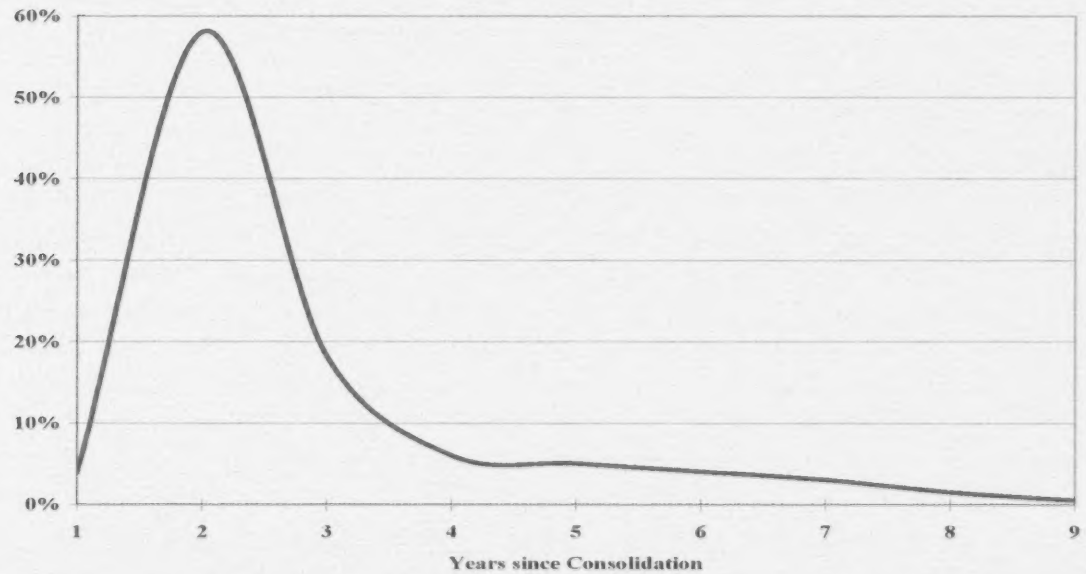
There is very limited experience for RAP. Based on past DRR experience and preliminary data for the first few months of RAP, assumptions have been made for RAP Stage 1 exhaustion, eligibility for RAP Stage 2, the proportion of eligible borrowers with an affordable payment and the affordable payment as a percentage of the required payment. A set of rates consisting of the reduction of the total amount of loans exhausting Stage 1 has been determined for each exhaustion cohort. The assumptions will be refined as experience emerges.

A provision for RAP – principal is established to cover risk of loss associated with the utilization of this measure. The provision recognizes that part of the loan principal will not be repaid by the students. The provision rate is set at 1.8% of net loans issued based on the projected principal amount borne by the Government under RAP.

5. Default Rate

The default distribution is based on Direct loans experience. The average distribution is shown in Chart 6. According to this distribution, approximately 80% of defaulted loans occurred in the first three years following consolidation.

Chart 6 Default Distribution

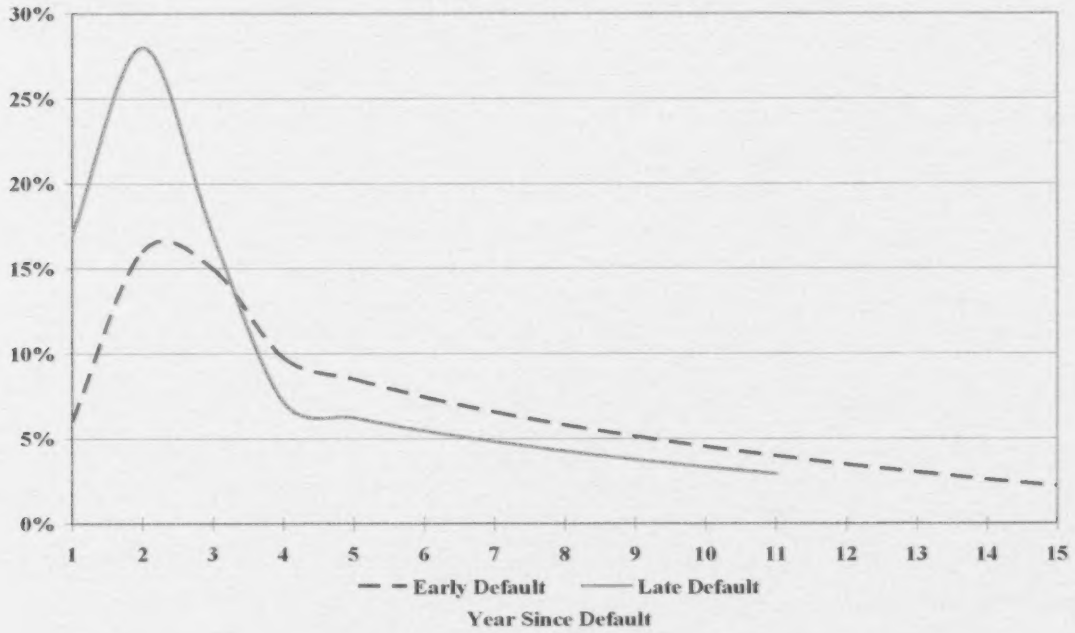


The assumption for the future default rate is reduced to 16%. This reduction is attributable in part to the new Repayment Assistance Plan that will help borrowers experiencing financial hardship repay their loans. In addition, improvements in communication with students are expected to help borrowers understand the options available to them throughout the repayment period and thus, reduce defaults. Future experience should be monitored closely to evaluate if the expected impact of RAP on default is realized. For a given consolidation cohort, the default rate of 16% represents the proportion of the total amount of loans expected to default in the future (spread over nine years after consolidation, as per Chart 6). A portion of these defaulted loans will then be recovered by the Government. To reflect the impact of the economic downturn on defaulted loans, the gross default rate is increased to 17.6% and 16.5% for default loan years 2009-10 and 2010-11, respectively. These increases are based on the anticipated job losses among borrowers in repayment and are determined using a proportion of the employment rate decrease experienced in the 1981-82 economic downturn.

6. Recovery Rate

The recovery distribution is based on Direct loans' experience. Separate distribution curves were obtained for the first four years of default occurrence since consolidation; a fifth curve is used as the ultimate distribution to extrapolate data in future years (Chart 7).

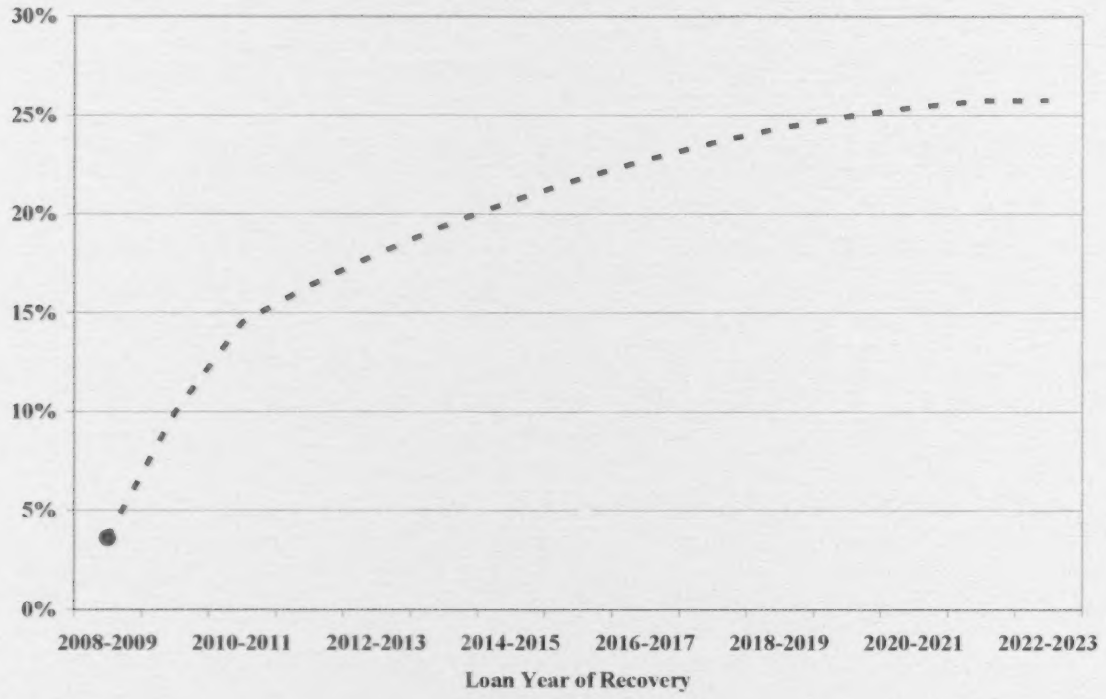
Chart 7 Recovery Distributions Depending on Date of Default



The assumed recovery rate, set at 29% in the previous report for loan year default cohorts 2007-08 and subsequent default cohorts, is reduced to 26% in this report. Since the assumed gross default rate is reduced, the projected default amounts are smaller. Based on recent experience, it is assumed that it will be more difficult to recover these defaulted loans, resulting in a lower projected recovery rate. The decision to no longer use private collection agencies may have also caused a temporary decrease in recoveries. It is anticipated that the recent economic downturn will have a modest effect on recoveries in the short-term. This is reflected by decreasing amounts recovered by 2.5% in loan year 2009-10 and 1.25% in 2010-11.

Chart 8 shows the projected cumulative proportion of recoveries for default cohort 2008-09 using the default amount in loan year 2008-09, the recovery distributions shown in Chart 7 and the assumed recovery rate of 26%. The first point of the curve represents the actual proportion of recoveries in loan years 2008-09 on loans that reached default status in the same loan year.

Chart 8 Projected Cumulative Proportions of Recoveries for 2008-09 Default Cohort



The resulting future net default rate is reduced to 11.8%. It corresponds to:
Gross default rate x (1 – Recovery rate) = 16% x (1 – 26%).

7. Bad Debt Provision – Principal

According to the accounting recommendations under Section PS 3050 Loans Receivable of the Public Sector Accounting Handbook of the Canadian Institute of Chartered Accountants, a provision should be determined using the best-estimate available in light of past experience, current conditions and future expectations. As described previously, the net default rate is set at 11.8% and an upward adjustment of 0.6% for interest accrued during the grace period is applied.

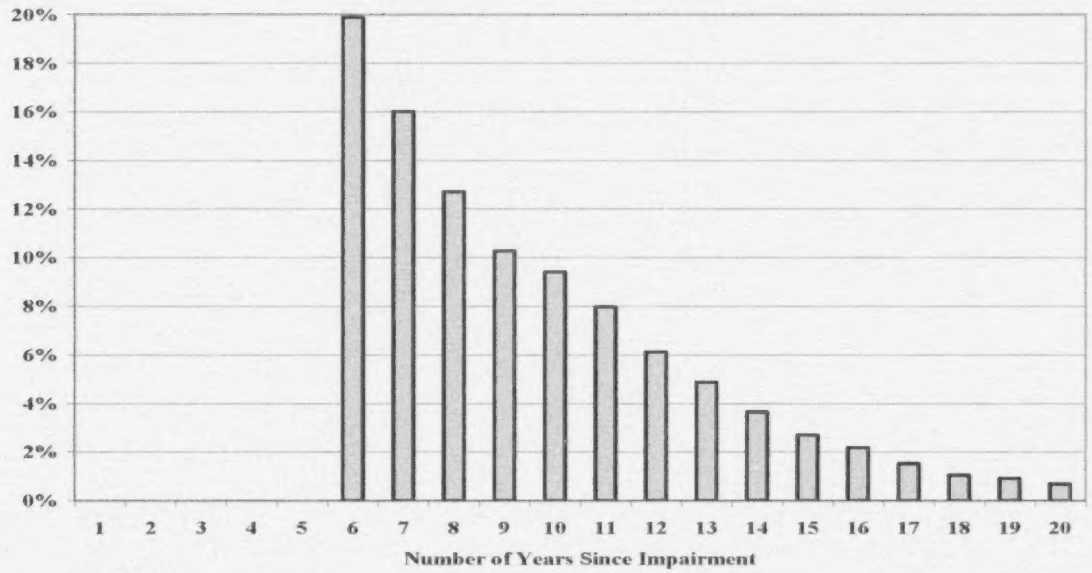
Table 31 Provision Rate – Bad Debt – Principal

Net Default Rate	11.8%
Adjustment: Interest accrued on loans during grace period	+0.6%
Bad Debt Provision – Principal: Applied to net loans issued	12.4%

From an accounting perspective, the provision rate for bad debt – principal is applied to the net loans issued. Net loans issued are obtained by reducing loans issued by prepayments and loans forgiven while in-study and during the six month grace period. As well, any loan adjustment due to a re-evaluation is also considered. The level of the total allowance is determined at the end of the loan year.

The calculation of the allowance is separated into three components according to the status of the loan; that is whether the loan is in-study, in repayment (according to the number of years since consolidation) or defaulted (according to the number of years since default). Future assumed rates of default and recovery are applied to these portfolio amounts to determine the allowance that must be put aside to pay future write-offs. The assumption used for write-offs is a 15-year distribution, starting in the sixth year following default. Note that the first write-offs of the Direct Loan Regime have been postponed until loan year 2009-10 since no significant write-offs have occurred yet. The write-off distribution is presented in Chart 9.

Chart 9 Write-off Distribution



8. Bad Debt Provision – Interest

The methodology for the calculation of the provision for bad debt – interest takes into account the number of years since default. Interest on defaulted loans is accrued until the loan reaches the "non-recoverable" status. A loan reaches this status when the collection of either principal or interest is not reasonably assured. For the purpose of the projections, a loan is transferred to "non-recoverable" status according to a 15-year distribution and is then written off according to a write-off distribution, which is based on the write-off distribution used for the principal portion, but with higher rates for the first years and lower rates for the last years of the distribution.

Since the interest on defaulted loans is accounted for as revenue, an allowance is established to cover the risk that such accrued interest will never be recovered. The methodology involves the calculation of:

- the accrued interest in each year on defaulted loans at the student cost of borrowing rates,
- the projected outstanding interest at the end of each year, using non-recoverable and recovery rates, based on direct loans experience and applied to outstanding interest at the beginning of the year,
- the projected allowance at the end of each year by adding, per year since default, the product of recoverable outstanding interest accounts and the corresponding provision rate; then 100% of outstanding non-recoverable accounts is added.

The expense for a year is equal to the difference between the total allowance (on recoverable and non-recoverable accounts) at the end of the year and the allowance of the previous year net of write-offs that have occurred during the year.

A set of provision rates that vary according to the number of years since default was established. The rates are shown in Table 32 and are modified from the last report to take into account that interest recoveries have been lower than expected.

Table 32 Provision Rates for Bad Debt – Interest

Year Since Default	Provision Rates (%)
1st	33.6
2nd	46.1
3rd	57.1
4th	66.0
5th	74.4
6th	71.6
7th	71.8
8th	72.1
9th	72.5
10th	73.3
11th	74.7
12th	77.0
13th	81.0
14th	88.0
15th	100.0

9. Other Assumptions

a) Prepayments and Accelerated Payments for Direct Loans

The analysis of principal payments received from students revealed that some payments are received while the student is still in school or during the grace period (prepayments) and some payments are received in excess of the scheduled payments during the repayment period (accelerated payments).

i) Prepayments

Prepayments correspond to payments applied to principal during the period of study and during the six-month grace period after the period of study end date. The amount of prepayments for loan year 2008-09 is approximately $240 million. The proportion of prepayments received during the period of study represents around 25% of total prepayments. Since the major proportion of prepayments (75%) is made during the six-month grace period, the assumption is established in relation to the consolidation amount. The assumption is set at approximately 15% of consolidations for loan year 2008-09 and thereafter.

ii) Accelerated Payments

Accelerated payments correspond to payments received during the repayment period that exceed the scheduled payment based on a 114-month (9.5 years) repayment period. The assumption used is a distribution of accelerated payment rates that vary according to the number of years since consolidation and is based on information from the Designation Monthly data files. The distribution is presented in Table 33 and represents the proportion by which the scheduled payments are increased. This assumption is the same as the previous report.

Table 33 Accelerated Payment Rates

Years Since Consolidation	Rate
Same year as consolidation	162%
1-2	84%
2-3	52%
3-4	49%
4-5	39%
5-6	20%
6-7	10%
7-8 and after	5%

An HRSDC Guideline on amortization periods for consolidating loans was implemented in loan year 2005-06. It provides direction on the maximum period over which consolidating loans are to be amortized by taking into consideration the outstanding loan amount. For projections purposes, the normal principal payments received from students are calculated based on a standard 114-month repayment period. However, the assumption for accelerated payments considers this Guideline implicitly.

Since the economic downturn will likely have an impact on accelerated payments, the total accelerated payments anticipated for loan years 2009-10 and 2010-11 are reduced by 10% and 5%, respectively.

b) Alternative Payments

Alternative payments are projected by multiplying the net cost of the Program by the ratio of the population aged 18-24 residing in the non-participating province and territories to the population aged 18-24 residing in the participating provinces and territory.

For the calculation of alternative payments, the expenses included are: interest subsidies, Interest Relief expenses for Risk-Shared and Guaranteed regimes, loans forgiven, recovery costs, service providers' costs, Canada Student Grants, claims, risk premiums, put-backs, refunds to financial institutions, Direct Loans' borrowing costs for loans in repayment or on Interest Relief (i.e. in good-standing) and default amounts for the Direct Loan Regime. The new Repayment Assistance Plan is not included as an expense in the alternative payment calculation. The revenues include: student interest payments and principal and interest from recoveries. The cost of alternative payments is $127 million for loan year 2008-09 based on expenses and revenue of loan year 2007-08 and $126 million for loan year 2009-10 based on expenses and revenue of loan year 2008-09 including an adjustment for overpayment in the prior year.

c) Administration Costs

HRSDC provided estimates of the administration costs to support the CSLP for three fiscal years. The costs have been converted to a loan year basis and the extrapolation of future years was done using wage increases. Administration costs include expenses for service providers as well as an estimate for Canada Revenue Agency (CRA) recovery costs and are shown below in Table 34.

Table 34 Administration Costs

Loan Year	Administration Costs
	($ million)
2008-09	123.6
2009-10	124.9
2010+	Increase with wages

d) Administration Fees Paid to Provinces

For loan year 2008-09, the administration fees paid to the participating provinces and territory was $12.9 million. The increase in wages is used to project this expense.

e) Canada Study Grants / Canada Access Grants and the new Canada Student Grants Program

For loan year 2008-09, the actual cost of Canada Study Grants was $66 million, while the actual cost of Canada Access Grants was $78 million for a total of $144 million. The Canada Student Grants Program was introduced starting in loan year 2009-10. The projected Canada Student Grants disbursed in 2009-10 totals $523 million, based on need assessment data for 2007-08 and the description of the program regarding eligibility and monthly grants amounts as determined in the *Canada Student Financial Assistance Regulations*. The total amount of Grants disbursed is projected to increase with the number of students over the projection period.

f) Loans Forgiven

In the long term, rates of loans forgiven correspond to 0.03% of loans in-study and 0.23% of loans in repayment, including loans forgiven after being transferred to default status.

Appendix 4 – Sensitivity Tests

An actuarial examination of the CSLP involves the projection of its income and expenditures over a long period of time. The information presented in section A of the Main Report has been derived using "best-estimate" assumptions regarding demographic and economic trends. Sensitivity tests are performed using assumptions for which changes within a reasonable range have the most significant impact on the long-term financial results.

Both the length of the projection period and the number of assumptions required ensure that actual future experience will not develop precisely in accordance with the best-estimate assumptions. Sensitivity tests have been performed, consisting of projections of CSLP financial results using alternative assumptions.

For each sensitivity test, key assumptions were changed individually, with the other assumptions being maintained at their best-estimate levels. Two tests were performed with respect to each of the assumptions tested, except for the loan limit, grants and student interest rate spread where only one test was performed. The alternative assumptions selected are intended to represent the limits of potential long-term experience. However, it is possible that actual experience could lie outside these limits.

Each of these tests was then categorized as either a "low-cost" scenario or "high-cost" scenario. In the "low-cost" scenarios, the alternative assumptions have the effect of reducing the annual cost of the Program. Conversely, in the "high-cost" scenarios, the assumptions would increase the Program cost.

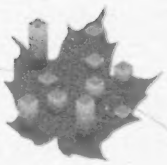
Table 35 below summarizes the alternative assumptions that were used in the sensitivity tests and is followed by a brief discussion of each assumption.

Table 35 Long-term Sensitivity Test Assumptions

Assumption	Low-cost	Best-estimate	High-cost
1. Loan Limit	--	$210	Indexed to inflation for 2010-11 and thereafter
2. Loan Limit and Grants		Not indexed	Indexed to inflation for 2010-11 and thereafter
3. Real Wage Increases	0.8%	1.3%	1.8%
4. Inflation	1.4%	2.4%	3.4%
5. Labour Force Participation Rates – 2033-34 Canada less Québec, Northwest Territories and Nunavut (ages 18-34)	89.1%	82.3%	79.4%
6. Tuition Cost	CPI	CPI + 3.0%	CPI + 6.0%
7. Rate of Borrowing:			
Government cost of borrowing	2.9%	4.9%	6.9%
Student cost of borrowing	5.7%	7.7%	9.7%
8. RAP Stage 1 Utilization	70%	100%	130%
9. Net Defaults	7.0%	11.8%	16.1%
10. Student Interest Rate Spread	--	250 bps	100 bps

1. Indexation of the Loan Limit

This scenario assumes that the loan limit of $210 per week and thereafter is indexed annually to inflation, thereby showing the effect of many small annual increases to the limit. Contrary to the best-estimate scenario, the proportion of students at the loan limit will decrease in this scenario.



However, the amount of total loans issued will increase gradually from 0.8% over total loans issued under the frozen limit in 2010-11 to 42% at the end of the projection period.

Table 36 shows the impact of gradually increasing the limit on loans issued compared to keeping the limit frozen at $210 per week.

Table 36 Impact of Loan Limit on Loans Issued

Loan Year	No Change to Loan Limit			Indexed to Inflation Starting in 2010-11				
						Loans Issued		
	Limit	% of Students at the Limit	Loans Issued Total	Limit	% of Students at the Limit	Total	Increase over Frozen	
	($)		($ millions)	($)		($ millions)	($ millions)	(%)
2008-2009	210	37.1%	2,070	210	37.1%	2,070	-	-
2009-2010	210	32.9%	2,091	210	32.9%	2,091	-	-
2010-2011	210	33.4%	2,119	214	32.3%	2,137	17	1
2011-2012	210	34.2%	2,120	218	32.0%	2,154	34	2
2015-2016	210	38.9%	2,201	238	31.3%	2,330	129	6
2020-2021	210	47.2%	2,308	268	31.4%	2,610	302	13
2025-2026	210	56.2%	2,502	301	31.2%	3,046	544	22
2033-2034	210	71.9%	3,254	364	32.4%	4,617	1,363	42

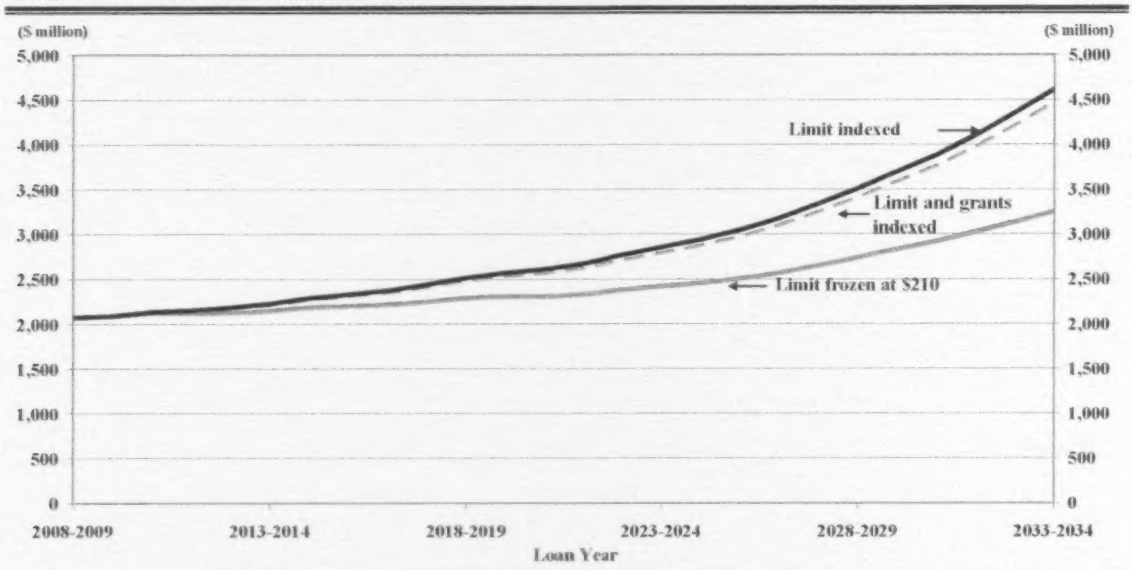
2. Indexation of Loan Limit and Grants

This scenario assumes that the amount of grants will be indexed annually to inflation. It is assumed that the indexation of grants would be accompanied by an indexation of the loan limit. Therefore, this scenario shows the cumulative effect of annual indexation of loan limit and grants on loans issued. The indexation of grants will lessen the effect of the loan limit indexation, thereby reducing total loans issued compared to the first sensitivity test. Chart 10 and Table 37 show the impact of gradually increasing both the limit on loans issued and the grant amounts disbursed compared to keeping the limit and the grant amounts frozen.

Table 37 Impact of Indexation of Loan Limit and Grants on Loans Issued

Loan Year	Limit frozen at $210			Limit and Grants Indexed to Inflation Starting in 2010-11					
	% of Students at the Limit	Loans Issued Total	Grants Total	Limit	% of Students at the Limit	Loans Issued Total	Increase over frozen	Grants Total	Increase over frozen
		($ millions)		($)		($ millions)	(%)	($ millions)	(%)
2009-2010	32.9%	2,091	523	210	32.9%	2,091	-	523	-
2010-2011	33.4%	2,119	527	214	32.2%	2,135	1	532	1
2011-2012	34.2%	2,120	523	218	31.7%	2,149	1	538	3
2015-2016	38.9%	2,201	521	238	30.4%	2,309	5	581	12
2020-2021	47.2%	2,308	512	268	29.9%	2,567	11	641	25
2025-2026	56.2%	2,502	528	301	29.0%	2,973	19	742	41
2033-2034	71.9%	3,254	643	364	29.1%	4,470	37	1,089	69

Chart 10 New Loans Issued with Indexation of Loan Limit and Grants



3. Real Wage Increases

Wage increases affect the CSLP by increasing the resources of a student as determined in the need assessment process. This, in turn, reduces the need of a student, which can reduce a student's access to a loan. However, administration expenses will also increase since these are linked to salary increases.

The real-wage is assumed to increase uniformly from its initial to ultimate level. An ultimate real-wage increase of 1.3% has been assumed in years 2016-17 and thereafter for the best-estimate projections. Combined with the best-estimate inflation assumption of 2.4%, it results in an ultimate assumed nominal annual increase in wages of 3.7%.

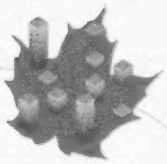
For the low-cost scenario, the assumed real-wage is reduced by 0.5%. This results in an ultimate real-wage increase of 0.8% in 2016-17.

For the high-cost scenario, the assumed real-wage is increased by 0.5%. This results in an ultimate real-wage increase of 1.8% in 2016-17. This sensitivity test has negligible impact on the net cost of the Program. For an increase of 0.5% in wages, the portfolio decreases but the administration cost increases.

4. Inflation

An ultimate annual rate of inflation of 2.4% has been assumed for the best-estimate projections. The rate of inflation is assumed to be 1.0% for loan year 2009-10 before increasing to 2.0% in 2010-11. The rate is then held constant for the following two years. The inflation rate is then assumed to increase uniformly and reach its ultimate level of 2.4% in 2016-17. The inflation rate affects the growth of a student's expenses, the growth of Program expenditures and, indirectly, student resources. It also indirectly affects the Government's cost of borrowing, as well as the repayment rate charged to the student.

For the low-cost scenario, the annual rate of inflation is assumed to decrease by 1.0%. This reduces the long-term rate of inflation to 1.4% in 2016-17. This level of inflation is comparable to that of the 1960s and 1990s.



For the high-cost scenario, the annual rate of inflation is assumed to increase by 1.0%. This increases the long-term rate of inflation to 3.4% in 2016-17. This level of inflation is comparable to long-term historical averages.

5. Labour Force Participation Rates

Labour force participation rates are used to determine the population enrolled full-time in post-secondary institutions. A higher participation rate means that fewer people will be available to attend post-secondary institutions, therefore decreasing enrolment. Similarly, a lower participation rate increases enrolment. In 2009-10, it is assumed that the overall labour force participation rate will decrease due to the economic downturn. For 2016-17 to 2033-34, it is assumed that participation rates will increase overall to 82.3% to compensate for the labour shortage.

For the low-cost scenario, participation rates are assumed to reach their highest historical level of 89.1% by 2033-34. In this scenario, a higher increase in the participation rates is used compared to the base scenario because the labour shortage is more pronounced.

For the high-cost scenario, participation rates are assumed to reach only 79.4% by 2033-34. In this scenario, a lower increase in the participation rates is used compared to the base scenario because the labour shortage is not as severe.

6. Tuition Cost

The long-term estimate of tuition increases is based on past tuition increases relative to the CPI. Over the last 33 years, yearly tuition increases have, on average, corresponded to increases in the CPI plus approximately 3.0%. Since budgetary pressures are anticipated in the future, given the aging of the population, CPI plus 3.0% was used as the ultimate growth rate.

For the low-cost scenario, the ultimate tuition increase is expected to correspond only to increases in the CPI. This result is more in line with increases of other goods and services. This also means that the Government's funding for education will be more in line with inflation.

For the high-cost scenario, the ultimate tuition increase is expected to correspond to increases in the CPI plus 6.0%. The anticipated budgetary pressures due to the aging of the population could reduce funding in key areas such as post-secondary education.

7. Rate of Borrowing

The rate of borrowing has an impact on the cost of the interest subsidy for students in school, the cost of providing Interest Relief to students in need and the Government cost of borrowing. This assumption also affects the student rate of borrowing. The rate of borrowing has historically been very volatile. As a result, greater emphasis should be placed on assessing the sensitivity of this assumption. The low-cost scenario reduces the rate by 2.0% and the high-cost scenario increases it by 2.0%. Each of these scenarios is plausible based on the volatility of past experience.

8. Repayment Assistance Plan Utilization (RAP) (Stage 1)

RAP is a new plan implemented in August 2009 to replace Interest Relief and DRR measures. In the future, the utilization of RAP Stage 1 could vary according to the current economic situation and students' awareness regarding the existence of this repayment assistance. The low-cost scenario reduces the utilization rate of Interest Relief by 30% while the high-cost scenario increases it by 30%.

9. Net Defaults

The net default rate of student loans is a major component of the Government's cost of being involved in the Program. The assumed future net default rate on consolidated loans is 11.8% which corresponds to a gross default rate of 16.0% and a recovery rate of 26.0%. This rate is closely linked with the employment environment for new graduates as it affects the ability of students to repay their loans.

In the low-cost scenario, the future gross default rate is reduced by seven percentage points, to 9%, while the future recovery rate is reduced by four percentage points to 22%. This results in a net default rate of 7.0% and a provision rate of 7.6%.

In the high-cost scenario, the future gross default rate is increased by seven percentage points, to 23% and the future recovery rate is increased by four percentage points, to 30%. This results in a net default rate of 16.1% and a provision rate of 16.7%. Both of these tests only affect the provision rate for bad debt – principal. The provision rates for bad debt – interest are unchanged.

10. Student Interest Rate Spread

This scenario assumes that the student interest rate spread of 250 basis points is reduced to 100 bps beginning in loan year 2010-11. Overall, this scenario results in a small reduction in the portfolio size at the end of the projection period, but a large increase in the net cost of the Program. By decreasing the student interest rate spread, total revenues decrease significantly due to the reduction in student interest earned. There is a small decrease in total expenses, but not enough to offset the revenue loss. Thus, the net effect is an 11.3% increase in the net cost of the Program at the end of the projection period.

Table 38 below summarizes the results of each of the sensitivity tests.

Table 38 Sensitivity Test Results for Loan Year 2033-34

Assumptions	Scenario	Loans Issued	Increase	Average Growth Rate	Portfolio July	Increase	Net Cost	Increase
		($ million)	(%)	(%)	($ million)	(%)	($ million)	(%)
Base Scenario	Best-estimate	3,254	-	1.8	20,714	-	1,809	-
Sensitivity tests								
1 - Index the limit to inflation	High-cost	4,617	41.9	3.3	27,165	31.1	2,094	15.8
2 - Index Loan Limit and Grants to inflation	High-cost	4,470	37.4	3.1	26,394	27.4	2,600	43.7
3 - Real Wage -0.5%	Low-cost	3,346	2.8	1.9	21,182	2.3	1,808	-0.07
3 - Real Wage +0.5%	High-cost	3,144	-3.4	1.7	20,170	-2.6	1,809	0.00
4 - Inflation -1%	Low-cost	2,874	-11.7	1.3	18,420	-11.1	1,497	-17.2
4 - Inflation +1%	High-cost	3,740	14.9	2.4	23,369	12.8	2,200	21.6
5 - High labour force participation	Low-cost	2,291	-29.6	0.4	15,724	-24.1	1,412	-22.0
5 - Low labour force participation	High-cost	3,687	13.3	2.3	23,165	11.8	2,037	12.6
6 - Tuition:	Low-cost	2,392	-26.5	0.6	16,282	-21.4	1,478	-18.3
6 - Tuition: CPI + 6%	High-cost	4,565	40.3	3.2	27,591	33.2	2,344	29.6
7 - Interest rate -2%	Low-cost	3,254	-	1.8	20,125	-2.8	1,594	-11.9
7 - Interest rate +2%	High-cost	3,254	-	1.8	21,308	2.9	2,027	12.0
8 - RAP Stage 1 utilization 70%	Low-cost	3,254	-	1.8	20,131	-2.8	1,772	-2.1
8 - RAP Stage 1 utilization 130%	High-cost	3,254	-	1.8	21,243	2.6	1,846	2.1
9 - Net default rate 7.0%	Low-cost	3,254	-	1.8	20,232	-2.3	1,623	-10.3
9 - Net default rate 16.1%	High-cost	3,254	-	1.8	21,047	1.6	1,977	9.3
10 - Student Interest Rate Spread +100	High-cost	3,254	-	1.8	20,274	-2.1	2,014	11.3

Appendix 5 – Acknowledgements

We would like to thank the staff of the Canada Student Loans Directorate of Human Resources and Skills Development Canada who provided the relevant data used in this report. Without their useful assistance, we would not have been able to produce this report.

The following people assisted in the preparation of this report:

Natacha Losier
Danita Pattemore, F.S.A., F.C.I.A.
Jonathan Petrin
Annie St-Jacques, ASA